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DO THE OPPORTUNITIES OFFERED DURING THE SCHOOL DAY PROVIDE THE RECOMMENDED PHYSICAL ACTIVITY LEVELS FOR CHILDREN? : AN ASSESSMENT OF THE UPSON COUNTY PRE-KINDERGARTEN AND ELEMENTARY SCHOOL PHYSICAL ACTIVITY OCCURRENCES

by

CHERYL LYNN ROBINSON GADDIS

(Under the Direction of Moya Alfonso)

ABSTRACT

Problem Statement: Almost 90% of students do not meet the national recommendations for physical activity in school. The purpose of this study was to determine the need for school policy changes to incorporate classroom-based physical activity programs in an effort to increase school physical activity levels for children in grades pre-kindergarten through five by assessing the levels of and the barriers/facilitators to physical activity engagement.

Methods: This was a sequential explanatory mixed methods study utilizing school board members, principals, and teachers in the Upson County School System as participants. The online survey was adapted from the School Health Policies and Practices Study Physical Education School and Classroom questionnaires (National Center for Chronic Disease and Health Promotion). Interview questions were developed based upon survey results. The study sought to answer the following questions: 1. Do the current physical activity opportunities provide 60 minutes of physical activity daily? 2. What are the barriers/facilitators associated with increasing physical activity in school? 3. What is the most effective method to increase physical activity for the public school system?

Results: The findings showed that at least 60 minutes of physical activity per day are neither required by the school system nor achieved by children in grades pre-kindergarten through fifth grade in Upson County. These students have physical education class twice weekly for approximately 45 minutes each day. Barriers to providing the recommended levels included lack of resources such as administrative support and assistance in developing lesson plans that incorporate physical activity. According to participants, the most effective method to increase physical activity for the school system is a classroom-based physical activity curriculum.

Conclusion: Policy change to incorporate physical activity into the core subjects that students engage in daily, such as math, and science, will increase the activity levels of the children and allow them to meet the recommendations of 60 minutes of physical activity per day as described by the American College of Sports Medicine and the American Heart Association. Integration also would help movement towards the Healthy People 2020 goals and objectives related to school policies requiring daily physical education for all students.

Index Words: Physical activity, Elementary school physical activity requirements, Classroom-based physical activity, Barriers to physical activity, Facilitators to physical activity, Stage Theory of Organizational Change

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Background

The Importance of Physical Activity

The Centers for Disease Control and Prevention (CDC) (2011) defines physical activity as the contraction of skeletal muscle to produce body movement causing an increase in energy expenditure above a basal level. Many people engage in physical activity to help control weight, however, there are other benefits associated with physical activity. Physical activity reduces the risk of diabetes, cardiovascular disease, depression, colon and breast cancer, and reduces the risk of vertebral fracture (CDC, 2011). The reduction of risks for these types of chronic illnesses can lead to overall good health, indicating that physical activity can be beneficial for all.

Regular participation in physical activity provides many health benefits for children and adolescents. Some of the child health benefits associated with regular physical activity include improved cardio-respiratory and muscular fitness, improved bone health, favorable body composition, reduced symptoms of anxiety and depression, and healthy growth and development (USDHHS, 2008). Studies show that decreased or lack of physical activity increases the risk for development of obesity, which also increases the risk for development of other associated health problems (Vann et al., in press). Engagement in

regular physical activity also decreases the risk for developing risk factors for diseases such as heart disease, obesity, and type II diabetes (USDHHS, 2008).

Physical activity is an essential component of health for all ages (US Department of Health and Human Services (USDHHS), 2008). Everyone should regularly engage in some level of physical activity, not only to improve certain health conditions, but also to prevent negative health outcomes from occurring. While many conditions affected by physical activity occur with increasing age, the risk for acquiring these conditions can be prevented by participation in regular physical activity during the early years (USDHHS, 2008). Therefore, early life-stage physical activity can prove to be beneficial during childhood with continued beneficial effects into adulthood. Ensuring that children engage in physical activity during the early years is imperative to achieve positive outcomes later in life (Ortega, Ruiz, Castillo, & Sjostrom, 2008).

Physical Activity Guidelines for Children

The United States Department of Health and Human Services (USDHHS), Centers for Disease Control and Prevention (CDC) and the American College of Sports Medicine (ACSM) published physical activity recommendations in 1995 which were confirmed by the Surgeon General in 1996 (USDHHS, 2008). These recommendations proposed that adults accumulate at least 30 minutes a day of moderate to intense physical activity on all days of the week (USDHHS, 2008). The recommendations were changed with the development of the *Physical Activity Guidelines for Americans* 2008 report. This report, developed by USDHHS, provides guidelines for all Americans at every age level and every level of fitness (USDHHS, 2008).

The ACSM and the American Heart Association (AHA) also updated physical activity guidelines in 2007. The 1995 guidelines did not include exercise recommendations for healthy or older adults. Therefore, they were included in the 2007 guidelines (ACSM, 2009). The current recommendations by the ACSM and the AHA define physical activity as moderate to intense cardiovascular activity for thirty minutes a day, five days a week, or vigorously intense cardiovascular activity twenty minutes a day three days a week in addition to eight to ten strength-training exercises with eight to twelve repetitions of each twice a week (ACSM, 2009). The USDHHS 2008 physical activity guidelines expand on this by providing direct recommendations for youth which proposes 60 minutes or more of physical activity daily (USDHHS, 2008). However, many youth do not follow the recommendations and are remaining or becoming inactive both inside and outside the classroom.

Health Outcomes Associated with Physical Activity

Unfortunately, children in the United States tend to engage in less than the recommended amount of physical activity. The Youth Risk Behavioral Surveillance System (YRBSS) is conducted annually to monitor specific categories of health risk behaviors, including physical activity and obesity, among youth and young adults (CDC, 2010). Results show that during the seven days preceding the survey, 81.6% of children were not physically active for at least 60 minutes per day on all seven days and only one-third attended physical education class (CDC, 2010). The students who took the survey were high school students, and studies show that participation in physical activity declines as young people age (CDC, 2010). Therefore, physical inactivity should be addressed during the early childhood years before the decline in activity begins.

Decreased levels of physical activity for elementary school children result in several negative outcomes. Two of these outcomes are increased obesity rates among youth and decreased academic performance (Hughes & Barney, 2009; Robinson & Wadsworth, 2010). Studies show that students who do not engage in adequate levels of physical activity are more likely to engage in sedentary behaviors, thereby becoming overweight which leads to issues such as obesity and other health related illnesses (Robinson & Wadsworth, 2010). However, studies also show a strong positive correlation between physical activity and increased academic performance (Berg, 2010; Hughes & Barney, 2009; Orlowski & Hart, 2010; Trudeau & Shepherd, 2008). Therefore, school districts would do well to place a focus on ensuring children engage in adequate amounts of physical activity to prevent chronic disease and positively influence school performance.

The amount of physical activity that elementary school age children engage in declines as physical education programs are reduced or eliminated (Gaus & Simpson, 2009). This reduction or elimination of in-school physical activity results in overall decreased physical activity as children already tend to become less active during after school hours. The major risk factor for the increasing prevalence of obesity, type II diabetes, and poor school performance is the lack of physical activity among youth (Hughes, & Barney, 2009; Robinson & Wadsworth, 2010). However, engagement in physical activity has positive influences on concentration, memory and classroom behavior (Trudeau & Shephard, 2008). Therefore, it is helpful for youth to engage in increased amounts of physical activity during the school day to ensure positive scholastic outcomes.

Methods to Increase Physical Activity

Children engage in physical activity at all levels of the socio-ecological spectrum: personal, interpersonal, organizational, and community. However, two specific settings where physical activity can be closely monitored and easily evaluated are the home and school. Parents have a major role in the determination of their children's activities at home which can be exacted positively or negatively. Studies demonstrate that family involvement proves effective in shaping and maintaining children's' physical activity patterns (Chen & Escarce, 2010; Eisenmann et al., 2008). Children tend to follow the example that is set by their parents or to engage in activities as prompted by their parents. Parents can choose to purchase electronic devices which capture their child's attention for hours while they remain stationary, but parents also can encourage children to engage in physical activity (Gruber & Haldeman, 2009). Parents who promote physical activity at home are more likely to have children who will later choose to engage in physical activity on their own when given the choice between an active and sedentary lifestyle.

While family involvement has a substantial effect on the amount of time children spend being active, the school system also has a responsibility to offer opportunities for physical activity. Children tend to spend the majority of their day in the school environment while sitting in class. This long period of inactivity throughout the school day results in the need for physical activity to be encouraged at school. Children typically spend one third of their day at school where physical activity is offered in insufficient amounts or is no longer required in most districts (Kahan, 2008; Kaur, Hyder, & Poston, 2003). Lack of curriculum focused on promoting increased physical activity in schools is a major contributing factor to physical inactivity (Steckler et al., 2003). However, school-

based interventions have been implemented to improve physical activity behaviors among children through tailored classroom curricula with positive outcomes (Steckler et al., 2003). The fact that children spend half of their waking hours in the school system makes it an ideal target area to focus on maximizing energy expenditures for children during the school day.

Health policies have an important impact on the health and wellbeing of communities, especially where children are involved. Regulatory and legislative actions have been put into place which focus on population approaches such as provision of nutritional content of food served in restaurants, advertising restrictions, and mandating school nutrition and physical activity programs (Boehmer, Brownson, Haire-Joshu, & Dreisinger, 2007). Whereas some schools are actively making progress to increase physical activity, stronger policies are needed to increase all aspects of physical activity at school (Story, Naney, & Schwartz, 2009). Of course, having the policy in place is only the first step. Once it is in place, enforcement must occur to ensure students are achieving adequate levels of daily physical activity.

Statement of the Problem

One of the main issues we face with children in today's society is physical inactivity or lack of physical activity (Vann et al., in press). The Georgia Youth Fitness Assessment concluded that almost 90% of students do not meet the national recommendations for physical activity in school (The University of Georgia Child & Family Policy Initiative, n.d.). The changes in guidelines by the CDC and the American College of Sports Medicine over the past few years is indicative of the need for increased physical activity among children.

Because this lack of physical activity results in increased rates of obesity, type II diabetes, and impaired academic performance it is imperative that this issue be addressed (Hughes, & Barney, 2009; Robinson & Wadsworth, 2010).

Research conducted to determine physical activity levels of children under the age of 11 is limited, yet necessary to determine how to increase physical activity in order to decrease the elevating rates of chronic diseases such as type II diabetes and obesity. The purpose of this study was to determine the need for school policy changes to incorporate classroom-based physical activity programs in an effort to increase school physical activity levels for children in grades pre-kindergarten through five. Consequently, this study targeted the effectiveness of existing physical activity curricula to provide the recommended amount of physical activity. Additionally, the study was designed to determine the barriers and facilitators associated with increasing physical activity for students as well as to identify the most effective evidence-based physical activity program for the school system.

Literature Review

Physical Activity among Children

Decreased Physical Activity Outside of School

Engaging in consistent physical activity is important for maintaining good health and preventing disease and death. However, many children face barriers when trying to engage in adequate levels of physical activity, leading to the development of obesity and chronic illnesses. It is documented in Healthy People 2020 that only 18.4% of adolescents met current physical guidelines for aerobic physical activity in 2009 (United States

Department of Health and Human Services, 2010). Contributing factors to the decrease in physical activity among youth have been suggested including reduced physical education at school, increased homework loads, campus vending machines, television, larger portion sizes, fast food restaurants, and video games among many others (Sturm, 2005). Therefore, the responsibility for increasing physical activity not only exists at the individual level, but also at the institutional and systematic levels where the school system exists.

Although the current recommendation by the ACSM (2009) is intense cardio for thirty minutes a day, five days a week, many youth fall short of this goal. According to the results of the Youth Media Campaign Longitudinal Survey conducted by the CDC (2003), 61.5% of children aged 9-13 years old do not participate in any organized physical activity during their non-school hours and 22.6% do not engage in any free-time physical activity. Prevalence of overweight among children nearly doubled from 1976-1980 to 1999-2002 (CDC, 2006). There are several factors which contribute to decreased physical activity such as built environments that are unsafe for walking and bicycling, the popularity of sedentary leisure-time activities, and the low percentage of children who take physical education in school (Drake et al., 2012). Historically, the school environment has been thought of as the principle means through which children engage in the majority of physical activity (Kahan, 2008). However, this is no longer the case as the decrease in required physical activity in school leads to insufficient amounts of physical activity. Only 17 to 22% of elementary schools offer daily physical education with a cumulative duration of about 85 to 98 minutes per week (Kahan, 2008); significantly below the recommended amount of physical activity by the ACSM. Therefore, one method to address the issue of decreased levels of physical activity among youth is to determine how school physical activity requirements have

changed to cause a decrease in the amount of activity children engage in during the school day.

Decreased Physical Activity in the School Environment

Although opportunities to engage in physical activity at school are available through extracurricular activities, the opportunity for a physical education curriculum is not always present. As of 2006, only 3.8% of public and private elementary schools required daily physical education for all students (Department of Health and Human Services, 2010). The decrease in physical activity during school hours and increasing obesity trends require efforts by the schools to address these issues. Identification of effective tools that are appropriate to use in schools to help guide health promotion programs and policies should be a priority for health professionals and educators as schools increase efforts to address childhood obesity (Austin, Fung, Cohen-Bearak, Wardle, & Cheung, 2006). However, to be effective, health professionals and educators must address the issue from multiple perspectives including the institutional and systemic or policy levels.

At the institutional level, schools have an important role in increasing physical activity among youth. Schools have continuous and intensive contact with approximately 95% of the youth in America (Story, Kaphingst, & French, 2006). Schools are prime locations for initiatives to increase physical activity because students are a captive audience for the better part of the day. However, school administrators face obstacles when it comes to actually putting physical activity at the top of the priority list. More states are using standardized tests to hold schools and students accountable for academic performance, pushing physical activity to the backburner (Story, Kaphingst, & French,

2006). As a result, the focus has to be on the core curriculum instead of allowing students to have a balance with physical activity. However, physical activity can be added to the school curriculum within other subjects without risk of hindering student academic achievement (Berg, 2010; Trudeau & Shephard, 2008). This process allows students to focus on academic achievement while also increasing the amount of physical activity in which they engage.

Effects of Physical Inactivity on Health – Obesity and Type II Diabetes

Obesity

One of the main issues that we face with children in today's society is physical inactivity or lack of physical activity. The World Health Organization (2011) stated that in 2010, over 42 million children under the age of five were overweight globally. The Centers for Disease Control and Prevention (2011) stated that in the United States, over 12.5 million children and teens are considered obese. Past decades have experienced significant increases in childhood obesity rates although these rates have slowed during the last 10 years; however this issue still remains a concern.

According to the Georgia Obesity Program Data Summary of 2008, an increase in sedentary lifestyle is one of the leading causes of obesity among elementary school children. As children get older, they also tend to become less physically active. In Georgia approximately 28,000 (24%) third grade children are obese and the percentages of obese children and youth in Georgia do not meet the Healthy People 2010 national goal of 5% regardless of age, sex, race, or ethnicity (Georgia Department of Human Resources, 2008).

To combat the issue of childhood obesity, the state of Georgia has established community initiatives involving increased activity and healthy eating. The Georgia Department of Human Resources created the Live Healthy Georgia Campaign and the Georgia Nutrition and Physical Activity Initiative to increase knowledge about obesity by increasing physical activity levels and healthy eating. The Live Healthy Georgia Campaign provides residents with information about living healthier and reducing the risk of developing chronic diseases by following five steps: 1. Get checked, 2. Eat healthy, 3. Be active, 4. Be smoke free, and 5. Be positive (Georgia Department of Public Health, 2011). The Georgia Nutrition and Physical Activity Initiative was established to prevent chronic illnesses through healthy eating and physical activity (Georgia Department of Public Health, 2012). Georgia also is involved in the Safe Routes to Schools program through the Department of Transportation, which is used to help encourage students to walk or ride bikes to school (The University of Georgia Child & Family Policy Initiative, n.d.). While these initiatives focus on increasing physical activity among all ages, they do not have programs that are focused on increasing physical activity specifically during in-school hours. Youth in Georgia are still not meeting the recommended levels of physical activity to assist in combating obesity levels despite the establishment of these initiatives,

Type II Diabetes

Type II diabetes is a major health concern for children who carry excess weight. Type II diabetes is diagnosed increasingly among children in the United States. Among youth aged <10 years, the rate of new cases was 19.7 per 100,000 each year for type 1 diabetes and 0.4 per 100,000 for type 2 diabetes. Those who are overweight are at a very high risk of developing diabetes (CDC, 2011, National Diabetes Fact Sheet). While about

215,000 people younger than 20 years of age have either type I or type II diabetes (CDC, 2011, National Diabetes Fact Sheet), some studies reveal that between 8% and 45% of recently diagnosed diabetes cases are children with the type II form (National Institute of Child Health and Human Development, 2007).

Lack of physical activity among children contributes to an increase in the number of children with type II diabetes. Upson County is located in West Central Georgia. Georgia counties in the West Central regions had higher age-adjusted diabetes mortality rates than the statewide average of 23 per 100,000 from 1999 through 2006 (Georgia Department of Human Resources, 2008). The Georgia Department of Human Resources (2008) reports that the mortality rates for type II diabetes in Upson County falls in the highest range of 31-82 per 100,000. The research stated earlier is evidence that physical activity among youth is on a steady decline and consistently contributes to an increase in obesity and type II diabetes rates.

Georgia efforts to combat diabetes are executed through the Georgia Diabetes Prevention and Control Program. The program serves to develop and implement evidence-based strategies towards the reduction of diabetes and complications related to uncontrolled diabetes (Georgia Department of Community Health, 2011). The program seeks to improve the well-being of those who are affected by diabetes. However, no program has been designated statewide to specifically address diabetes among children.

Effects of Physical Activity on Academic Performance

One reason for schools to promote physical activity within its walls is that it potentially affects student performance. Story, Kaphingst, and French (2006) reported on a

research study which found that severely overweight children and adolescents are four times more likely than their healthy-weight peers to report “impaired school functioning.” Engaging in physical activity helps children to focus and function appropriately in school. Findings show that physical activity programs help school-aged children develop social skills and improve mental behaviors (Story, Kaphingst, & French, 2006). Increase in vigorous activity also improves the ability of students to think in academic areas in addition to reducing the amount of off-task behaviors, ensuring students are able to focus on their work (Hughes & Barney, 2009). In order to make their students more successful and high achievers in addition to keeping them healthy, schools could take the initiative to provide more opportunities for physical activity.

Decreases in physical activity within schools have occurred due to the need to focus more hours on curriculum-related activities. However, physical activity can be added to the school curriculum without negative academic consequences (Storey, Nanney, & Schwartz, 2009). In fact, increases in physical activity have improved academic performance by providing emotional and social benefits which help students perform better in school. Studies show that a maximum of an hour of daily physical activity can be added to the curriculum while reducing time from other subjects with no harm to student academic achievement (Trudeau & Shephard, 2008). Physical activity also has been found to improve academic achievement by resulting in lower dropout rates, improving classroom behavior, self-esteem, and on-task behavior (Trudeau & Shephard, 2008). As a result of improvement in these areas, students also achieve improved learning efficiency which improves overall academic performance.

While local districts are required to set programming goals and conduct evaluations, no federal law exists to require physical education provision to students nor any incentives for offering physical education programs (Story, Nanney, & Schwartz, 2009). This lack of requirement nationally causes children in many school districts to not achieve adequate amounts of physical activity during the school day. Despite the lack of requirements on the federal level, programs have been put into place to increase physical activity among children. The National Association for Sport and Physical Education publishes standards which define quality physical education for elementary through high school through a comprehensive school physical activity program (Story, Nanney, & Schwartz, 2009). These standards accentuate the daily and minimum time requirements for physical activity that students should meet. However, school districts are not required to participate in this program.

Addressing Physical Inactivity through Evidenced-Based Programs

Classroom-based Physical Activity Programs

Some schools are attempting to address the issue of physical inactivity among youth by implementing comprehensive school physical activity programs (Beighle et al., 2009). The National Association for Sports and Physical Education provides guidance for achieving at least thirty minutes of physical activity during the school day through a comprehensive school physical activity program that includes in-school strategies beyond physical education (Avery & Brandt, 2010). During school strategies are accomplished through various approaches. Brief moments of physical activity in the classroom are incorporated through games, integrated lessons, and routines and transitions to improve children's attitude, attention, memory, and content achievement (Orlowski, & Hart, 2010).

Programs such as Go for Health, Verb™ and Take 10! have been used to help schools provide increased physical activity in the classroom more effectively.

The *Go for Health* program is based on social cognitive theory and consists of components that target physical activity as well as school lunch. The results reported by Simons-Morton et al. (1991) showed a significant increase in moderate to vigorous physical activity levels among third and fourth graders. The VERB™ campaign is another program designed to incorporate physical activity into the classroom setting. The Centers for Disease Control launched the VERB™ campaign in 2002 specifically to encourage children 9-13 to be physically active every day (Huhman, et al., 2009). In addition to mass media, the campaign also delivered its message through school promotions. Four years later, the schools participated in a 1-3 week classroom activity allowing the campaign to reach almost 3000 elementary and middle school children in addition to providing grant opportunities to schools (Huhman et al., 2009). The overall results showed a marked increase in physical activity among the students who were exposed. *Take 10!* is a classroom-based program which links physical activity with academic learning objectives in Language Arts, Math, Social Studies, Science and Health through an innovative curriculum specifically designed for the classroom (Take 10!, 2011) The program is designed for kindergarten through fifth graders but also has components for preschool and middle school students. Results from implementation of the preschool component, Animal Trackers, show that activities can be implemented with only seven minute teacher preparation time, yet increased structured physical activity (Williams, Carter, Kibbe, & Dennison, 2009).

The classroom-based physical activity curricula promote and provide physical activity opportunities that are organized for easy implementation. Results from studies where these types of programs have been implemented identify both benefits and challenges. Challenges to these types of programs include maintaining classroom management with very large class sizes and limited school staff (Baskin, Zunker, Worley, Dial, Kibrough, 2009). Other challenges which have been identified include scheduling and assessment pressures, teacher participation and concerns about academics (Cothran, Kulinna, & Garn, 2010; Evenson, Ballard, Lee, & Ammerman, 2009). However, the benefit to integrating physical activity into the total learning experience is that it can positively influence increased physical activity for students and better academic performance (Cardon, Haerens, Verstraete, & de Bourdeaudhuij, 2009; Gaus, & Simpson, 2009; Hughes & Barney, 2009).

Addressing Physical Activity through Policy

National Physical Activity Policy

Schools have the ability to increase physical activity at the systemic level through policy. As mentioned previously, many schools have physical education programs, however academics take precedence. Budget constraints and academic achievement goals have forced school districts to reduce or eliminate physical education programs (Gaus, & Simpson, 2009). For this reason, schools should develop policies which mandate at least the recommended amount of physical activity be acquired during the school day. According to the Trust for America's Health examination of state statutes and administrative codes for physical activity policies, Illinois was the only state to require daily physical education for every grade while only 27 states required physical education

for the elementary school level (Story, Kaphingst, & French, 2006). In addition, The North Carolina State Board of Education included a requirement in the Healthy Active Children Policy for all children in kindergarten through eighth grade to receive at least 30 minutes of moderate to vigorous physical activity each school day through physical education, recess and other creative means such as classroom energizers (Evenson, Ballard, Lee, & Ammerman, 2009). Although the requirements are in place for some states, they are often not enforced as physical education is usually a low priority in comparison to the core curriculum. Therefore, policy could be implemented at the school level to increase physical activity. Some challenges to implementing this type of policy at the school level include lack of time in the school day, teacher participation, and concerns about academics being pushed to the background (Evenson, Ballard, Lee, & Ammerman, 2009). While there are some challenges to be addressed, school-based state policy to address physical activity is beneficial in increasing physical activity among youth.

Because physical activity participation during school hours provides a window of opportunity to increase youth activity, legislative policies are being developed towards this effort. The Child Nutrition and Women, Infants and Children Reauthorization Act of 2004 required any school district participating in the federal school meal program to enact a wellness policy (Story, Kaphingst, & French, 2006). This policy requires the school districts to establish physical activity and nutrition education goals and to evaluate the policy implementation. The policy was developed ecologically with students, parents, school food service and administrators being involved in the development process. Additional policies were still being developed in 2005, when six states adopted resolutions to encourage state and local education to enhance physical education and physical activity although they are

not mandating this (Story, Kaphingst, & French, 2006). Georgia was not one of the states to adopt this policy. In addition only one school, which was not located in Georgia, adopted a policy to require thirty minutes of daily physical activity for children in grades K-8 (Story, Kaphingst, & French, 2006). The Let's Move Campaign was established by First Lady Michelle Obama in order to solve the challenge of childhood obesity. The campaign encourages healthy eating, physical activity, and policy changes to ensure children grow up healthier without the burden of being obese (Let's Move Campaign, 2012). This particular initiative involves families, schools, and communities in the challenge to get active. It specifically encourages schools to incorporate strategies to get children more active by increasing access to physical activity, maintaining physical education programs that engage students at least 50% of the class time, and providing qualified professionals and specific skills to help students be physically active throughout the day (Let's Move Campaign, 2012). However, the schools must be willing to take on the initiative within their schools despite not having a federal mandate to do so. So far, Georgia Schools have not made this campaign policy for their schools.

Georgia School Physical Activity Policy

The state of Georgia requires a minimum of ninety hours of physical education and health per school year in grades kindergarten through five (National Association for Sport and Physical Education, 2010). Keeping in mind that the ninety hours each year is a combination of physical education and health, the total number of hours of physical activity students are required to participate in is less than 90 hours per year. In addition, Georgia mandates physical education in grades kindergarten through eighth grade without a requirement for daily recess (National Association for Sport and Physical Education, 2010).

Students are required to participate in physical education; however this may be the only opportunity they have for physical activity depending on the standards of the school system regarding recess. Furthermore, physical education class does not consist of only active participation, but also includes discussion of health in many schools. The state does not require the use of specific curricula for physical education at any school grade level. Therefore, school systems may choose to use any type of curriculum to achieve the physical education requirements.

All school districts in the state of Georgia are required to comply with the state standards for physical education. The new Georgia Performance Standards were approved by the State Board of Education in June 2009 through House Bill 229 (National Association for Sport and Physical Education, 2010). The standards are based on the National Physical Education Standards developed by the National Association for Sport and Physical Education (NASPE) and require all students enrolled in a physical education course to have an annual fitness assessment. These new standards replaced the Quality Core Curriculum as of the 2010-2011 academic school year by providing guidance for teachers to design physical education curricula which are appropriate for their specific grade level instead of defining the curriculum (Georgia Department of Education, 2008).

Despite these newly implemented standards, there is no verification that students are getting a minimum of sixty minutes of physical activity daily. There is no mandate that physical education courses require students to meet the recommended amounts of physical activity on a daily basis. Additionally, physical education is not included as a subject area on the state's education report card for each school. So again, parents and people other

than the school system administration are unable to identify the performance of local schools in the area of physical activity. Therefore, it is necessary to assess the current physical activity curriculum to determine its sufficiency in helping students to achieve the recommended levels of at least sixty minutes of physical activity on a daily basis.

Thomaston-Upson School System Physical Activity Policy

The Thomaston-Upson school system abides by the policies set forth by the state of Georgia. This means that the system includes information and concepts in seventeen areas and provides a minimum of 90 contact hours of instruction in health and physical education for grades kindergarten through five (National Association for Sport and Physical Education, 2010). However, the specific manners in which the mandated policies are followed are currently unknown. Review of current literature provided by the school system does not inform the methods by which students engage in physical activity, nor do they identify the levels of physical activity engaged in by students. An assessment of the curriculum and physical activity levels is necessary to determine the specifics of the physical activity policy followed by the Thomaston-Upson school system.

Theoretical Framework

Since children typically spend seven to eight waking hours in the school system, it is an ideal target area to address the issue of physical inactivity among youth. However, school systems are complex with layered social systems at which health strategies should be directed at once to provide the most durable and desired results (Campbell, 2001). The many levels of the school system which are involved (Board of Education, principals, and teachers) suggest use of the Stage Theory of Organizational Change as the theoretical basis to address physical activity levels in the school system.

Stage Theory of Organizational Change

Organizations tend to consist of multiple levels with multi-faceted relationships. Therefore, creating change in an organization requires use of a theory that addresses all levels to ensure comprehensive change. Many health promotion programs take place within the organizational setting requiring researchers to understand how to create change in organizations in order to design and implement the programs (Butterfoss, Kegler, & Francisco, 2008). The school system is one type of organization where organizational policies and practices are frequently changed either due to curriculum content mandates by government or due to health related changes such as requirements for school lunches. While some researchers use social psychological theories to inform organizational change, the use of organizational theories provides "insight into how to facilitate the adoption or institutionalization of a particular evidence-based intervention within an organization or help explain how an organization may actually discourage positive behaviors" (Butterfoss, Kegler, & Francisco, 2008, pg. 336). This study applied the Stage Theory of Organizational Change to focus on change within the school system.

Stage Theory of Organizational Change focuses on the stages through which organizations pass in order to adopt an intervention (Butterfoss, Kegler, & Francisco, 2008). The theory has been adapted from the original seven stages developed by Lewin (1951) to the more current four stage theory developed by Kaluzny and Hernandez consisting of the following: awareness stage, adoption stage, implementation, and institutionalization of change (Butterfoss, Kegler, & Francisco, 2008; Kaluzny and Hernandez, 1998) (Appendix H). This study proposed the use of the first two stages of this theory, awareness and adoption. The awareness stage involves recognition and analysis of

the problem in addition to seeking and evaluating a solution (Butterfoss, Kegler, & Francisco, 2008; Kaluzny and Hernandez, 1998). The awareness stage can be employed by school systems to recognize and analyze the problem of decreased physical activity engagement among youth during the school day. The adoption stage involves the formulation of a policy along with allocation of resources to begin the change (Butterfoss, Kegler, & Francisco, 2008; Kaluzny and Hernandez, 1998). The adoption stage can be applied to suggest and evaluate solutions and formulate policies which could possibly be implemented during the implementation phase. The implementation phase allows for reactions to take place and changes in roles to occur within the organization (Butterfoss, Kegler, & Francisco, 2008; Kaluzny and Hernandez, 1998). Policies and programs to increase the amount of physical activity students engage in during the day can be implemented during this phase. During the institutionalization phase, the policy or program is integrated within the organization along with new goals and values (Butterfoss, Kegler, & Francisco, 2008; Kaluzny and Hernandez, 1998). This phase ensures that the policy or program is accepted and applied throughout the organization in which it has been implemented. The implementation and institutionalization of change stages were not utilized for this particular study. However, these two stages would be used if the school system decides to actually implement a change to their current physical activity requirements based on the results of this study.

Summary

Research indicates that most youth do not participate in the recommended daily amount of physical activity. As a result, more children are becoming overweight and obese than ever before. There are many points of impact to increase the level of physical activity

among youth. The individuals can make personal behavioral change and parents can positively influence their children on the interpersonal level to engage in physical activity. However, it seems that schools are the most ideal setting for encouraging children to engage in more physical activity. As the students spend a third of their day in the school environment, the schools can adopt policies and implement programs that allow them to provide health education and various opportunities for physical activity throughout the day. By working with students, parents, and government, schools can encourage children to become physically active in an effort to decrease increasing obesity rates. Therefore, this study was used to determine the content of the current physical activity requirements in comparison to the recommended requirements and also the barriers and facilitators to increasing physical activity levels for students through the most appropriate physical activity program. The results were used to determine the need for school policy changes to incorporate classroom-based physical activity programs in an effort to increase school physical activity levels for children in grades pre-kindergarten through five.

Significance of the Study

Despite development of initiatives such as Healthy People 2020 which has specific objectives to increase physical activity levels among children, there is still controversy over whether youth are obtaining adequate levels of physical education and are sufficiently active (Boyle, Jones & Walters, 2008). This research project was significant in that it addressed the issue of decreased physical activity among youth in relation to the levels of physical activity achieved by students during the school day as demanded by school policy. It first assessed the physical education curriculum that is in place within the Thomaston-

Upson school system. The process determined not only how often students currently engage in physical activity, but also areas where they could be engaged in more activity during the day while they are a captive audience. Additionally, it incorporated the perspective of the Board of Education, principals and teachers who are responsible for developing and carrying out the curriculum and have the authority to make changes to school policies to incorporate implementations which increase physical activity levels. Studies show that the task of teachers in promoting the health and activity of young people has been given more recognition by government authorities (Boyle, Jones & Walters, 2008; Gaus & Simpson, 2009). They have the ability to provide insight on how the physical education program can be improved and methods for increasing physical activity within the classroom setting during the day.

Increasing the activity levels of the children would allow them to actually meet the recommendations of the American College of Sports Medicine and the American Heart Association. It also would help movement towards the Healthy People 2020 goals and objectives as they relate to adolescent health educational achievement, health enhancing behaviors, and school policies to promote healthy environments and require daily physical education for all students (US Department of Health and Human Services, 2010). Overall the study adds value to public health promotion and education. This study provides a foundation for schools to build upon for promotion of good physical health, teaching children the benefits and importance of daily exercise, increasing academic performance among youth, and decreasing the risk of obesity and type II diabetes among youth.

Chapter Summary

The topic of physical activity is one that is consistently discussed and debated. Guidelines have been changed to address the increasing rates of physical inactivity, obesity, and other health conditions that result from lack of physical activity. Additionally, the hours children spend in school are increasingly required to be based more on academics, contributing to the lack of physical activity. Therefore, current physical activity curricula should be examined to determine their ability to provide recommended levels of physical activity and appropriate evidence-based programs should be implemented to assist in achieving the recommended levels.

Chapter 1 provided an extensive literature review of physical activity, its current implementation in the school environment, and various types of evidence-based classroom-based physical activity program. The following chapters provide more detailed information regarding this study. Chapter 2 provides the purpose of this study and the research questions utilized to conduct the study. Chapter 3 provides a comprehensive outline of the methods for this study. Chapter 4 follows with the results of the study which are discussed in Chapter 5 along with recommendations for the school system.

Chapter II: Research Questions, Study Aims

Introduction

Children engage in physical activity in several different settings including home, the community, and school. However, schools are the perfect place for promoting physical activity given that students are a captive audience at school and physical activity is usually a component of health education which is mandated in most states (Story, Kaphingst, & French, 2006). Unfortunately, the amount of physical activity the students actually participate in is often decreased due to classification of other areas of the curriculum as more important. In some schools physical activity has been eliminated completely. The literature reveals that many of the nation's public schools provide some type of physical activity program, yet they face opposing pressures which hinder their efforts to provide a maximum of 60 minutes per day during school hours (Gaus, & Simpson, 2009). Despite their desire to ensure students are able to participate in an adequate amount of physical activity, schools have to adhere to the school district policy regarding the amount of time allotted for each area of the curriculum.

The barriers that prevent achievement of adequate levels of physical activity can be overcome. Schools first have to assess the actual physical activity levels of their students and not base it solely on the amount dictated by school policies. The schools also must recognize the barriers associated with the constantly diminishing amount of physical activity in order to identify methods to overcome them and increase the amount of physical

activity students receive during the school day. It is also beneficial for schools to recognize the facilitators which help them to ensure students are getting any amount of physical activity. When schools have an understanding of the levels of physical activity their students are achieving as well as the barriers and facilitators associated with them, they can determine the best methods to increase physical activity if students are not getting sufficient amount of activity time.

The overall purpose of this study was to determine the need to implement school policy changes in an effort to increase school physical activity levels for children in grade pre-kindergarten through five. Therefore, the study was designed to assess physical activity levels of students specifically during the school day while they are a captive audience. Additionally, the study addressed the issue of decreased physical activity by assessing school personnel to determine their knowledge of the amount of physical activity their students receive and the barriers and facilitators associated with those physical activity levels. It also allowed for the determination of other methods by which physical activity can be increased during the school day. This chapter outlines the specific research questions and the specific aims of the study.

Research Questions

There were three research questions developed to assess the levels of physical activity engaged in daily by children enrolled in the Thomaston-Upson School System. These questions were answered using a subset of questions which were aligned with the first two stages of the Stage Theory of Organizational Change: awareness and adoption. The research questions were answered utilizing surveys and in-depth interviews through a

sequential explanatory design. The data collection procedures, including specific qualitative and quantitative methodologies, are described later in this chapter.

Awareness

1. Do the current physical activity opportunities within the Thomaston-Upson school system provide the recommended amount of physical activity for elementary school age children?
    a. What is the school's current format for providing physical education?
    b. What are the overall goals or focus of the physical education curriculum?
    c. What other opportunities, outside of physical education class, are available for physical activity during the school day for each grade level (i.e., homeroom, lunch, recess, etc.)?
    d. How often are elementary school aged children in the district required to participate in physical activity?
    e. How does the school district's physical activity requirements compare to other school districts in the state?
    f. Does the school district currently incorporate physical activity into other subjects that are taught in the classroom and how?
2. What are the barriers and facilitators associated with increasing physical activity for students?
    a. What makes it easy to provide the recommended amount (60 minutes or more daily, US Department of Health and Human Services, 2008) of physical activity for students?

b. What makes it difficult to provide the recommended amount (60 minutes or more daily, US Department of Health and Human Services, 2008) of physical activity for students?

c. How does the physical education program overcome these difficulties?

Adoption

3. What is the most effective method to increase physical activity for the Thomaston-Upson school system?

    a. What is the best way to provide additional opportunities for increased levels of physical activity for students?

    b. How open would you be to incorporating an intervention to provide increased physical activity for students during the school day?

    c. What have you heard about programs such as Take 10! © and Go for Health?

    d. What is the feasibility of incorporating a classroom-based physical activity program in the Thomaston-Upson School System elementary schools?

    e. What support would be required to be able to incorporate classroom-based physical activity in elementary schools?

Aims of the Study

The aims of this sequential explanatory mixed methods study were three-fold: 1) to assess the opportunities currently offered for physical activity in schools to determine if they sufficiently provide the recommended levels of physical activity for students, 2) to

determine the barriers and facilitators to increasing physical activity, and 3) to determine the most appropriate evidence-based classroom-based physical activity program for elementary school aged children in the Thomaston-Upson school system. To achieve these aims, the Stage Theory of Organizational Change was used as a theoretical framework to focus on implementation of change within an organization.

Chapter III: Research Methods

Mixed Methods Design

Sequential Explanatory Design

Mixed methods research is becoming more common in studies across the social sciences to provide a rigorous approach by which researchers are able to answer research questions (Creswell & Plano Clark, 2007). The mixed methods design allows for collecting, analyzing, and mixing both qualitative and quantitative data. The utilization of both research methods provides for a better understanding of the identified research problem and increases the strength of the study; more so than either approach would provide alone (Creswell & Plano Clark, 2007). Therefore, the mixed methods approach was deemed the most appropriate for attaining the goals of this study.

Justification of Sequential Explanatory Design

The specific mixed methods design engaged for this study was the sequential explanatory design. The sequential explanatory design allowed the researcher to collect and analyze quantitative data during the first phase of research, then to build upon the results of the quantitative phase through collection and analysis of qualitative research during the second phase (Creswell, 2009). The sequential explanatory design also allowed for clear and separate quantitative and qualitative data collection and analysis methods while still connecting the data through the interview questions which were developed based on the quantitative data. This design was most appropriate for this study because it allowed for the quantitative data collected through surveys to be further examined,

expanded upon, and defined through interviews which provided more detailed information about the quantitative data. Additionally, the data results were presented in a mixed format to show how the qualitative data was used to expand on information found during the quantitative phase and to show how additional information was determined that was not revealed during the quantitative phase.

Theoretical Foundation

Stage Theory of Organizational Change

The theoretical foundation for this study was the Stage Theory of Organizational Change, a theory which helps to explain the different stages organizations pass through to recognize the need for change, then plan and implement new ideas, programs or policies (Butterfoss, Kegler, & Francisco, 2008; Kaluzny and Hernandez, 1998). The Stage Theory of Organizational Change, originally conceived by Lewin (1951), proposes that organizations must pass through stages with a specific set of strategies for each stage (Butterfoss, Kegler, & Francisco, 2008). This study utilized the more modern version of the Stage Theory of Organizational Development created by Kaluzny and Hernandez in 1988 which has condensed the original seven stages into four.

The Awareness Stage seeks to involve management and other personnel in awareness-raising activities to recognize that a problem exists (Butterfoss, Kegler, & Francisco, 2008; Kaluzny and Hernandez, 1998). The Awareness Stage of the Stage Theory of Organizational Change was used to involve school system administration and staff (Board of Education members, principals, and teachers) in recognizing and analyzing a problem of insufficient amounts of physical activity engaged in by elementary school aged

children in order to suggest and evaluate a solution. The Awareness Stage was applied, in addition to the review of evidence from the literature review, to guide the selection of items for the survey (Appendix B) and interview questions (Appendix C) to define the problem as well as search for possible solutions. Through this stage, school system personnel were involved in the development of possible solutions to address physical activity insufficiency among elementary school children.

The Adoption Stage provided an opportunity for process consultation to inform management and personnel of the components involved in the adoption of new policies or directives (Butterfoss, Kegler, & Francisco, 2008). The Adoption Stage was used to inform the school system personnel of various types of interventions which would be appropriate for adoption by their organization to increase physical activity levels based on the information provided from the surveys and interviews. Therefore, this study applied the Adoption Stage in the selection of questions from the survey and interviews to determine barriers and facilitators in order to allocate appropriate resources and to formulate the best recommendations for policy changes to increase physical activity engagement among elementary school children.

As mentioned in Chapter 1, the final two stages of the theory, implementation and institutionalization of change stages were not utilized for this particular study. However, these two stages will be used if the school system decides to actually implement a change to their current physical activity requirements based on the results of this study. The change will be implemented within the school system and then institutionalized through policy within the school system.

Social Context

Upson County

Upson County is a rural community located in West Central Georgia where the city of Thomaston is the county seat. Although the county is rurally located, it is central to urban/metropolitan cities including Atlanta, Macon, and Columbus. The 2009 population estimate for Upson County was 27,551 with a slightly lower population estimate of 27,509 for 2010 (US Census Bureau, 2010). Of the 27,551 population estimated for 2009, approximately 17% (4,802) are children who are age 12 and under and 2,926 (61%) of these children are in the age range (4-11) for pre-kindergarten through fifth grade (OASIS, 2011). Twenty-five percent of the children in Upson County live in poverty compared to 11% for the nation and 20% for the state of Georgia. The median household income is $33,952 and 53% of children are eligible for free lunch. In addition, 60% of the county's ninth grade cohort in public schools graduated from high school in four years (64% - GA, 92% National) and 38% (68% - GA, 58% Nation) of adults age 25-44 obtained some type of post-secondary education. The rate of recreational facilities per 100,000 is 11, which is higher than that for the state (9) but lower than that for the nation (17). (County Rankings, 2011)

Thomaston-Upson School System

The Thomaston-Upson school system consists of six schools: 1) a 4-year old pre-kindergarten center, 2) a kindergarten through third grade elementary school, 3) a 4th and 5th grade elementary school, 4) a middle school, 5) a high school, and 6) an alternative school. The school system serves almost 4,600 students and has been under the direction of Dr. Marguerite Shook since June 2007. The vision of Thomaston-Upson Lee schools is to

"be a model system of effective teaching and learning in preparing students who are personally, academically, and socially successful both in school and in life" (Thomaston-Upson School System, 2011). The school system's dedication to ensuring their students succeed in every possible way in addition to its rural location make this county a model setting for this study.

Research Methodologies

The sequential explanatory design involved a first phase of quantitative data collection and analysis. The second phase, consisting of qualitative data collection and analysis, was based upon the data analysis of the first phase. The first phase provided information and concepts through survey data. These data were analyzed and used to inform qualitative data collection through the development of interview questions. The interview questions were designed to fill in the gaps which were identified after quantitative data analysis. The primary focus of this design was to first assess through surveys the physical activity opportunities that were already in place within the Upson County school district (Research Question 1), then identify barriers and facilitators to increasing opportunities for physical activity (Research Question 2), and finally to use that information to further develop interview questions to elaborate on the quantitative data and determine the preferences and resources of the school board and teachers regarding the implementation of an evidence-based program to significantly increase physical activity levels for elementary school children in Upson County (Research Question 3).

Quantitative Data Collection

The quantitative phase was the first phase of the study which made use of the survey as the data collection tool. The purpose of the survey was to make inferences regarding the first two research questions: (1) identify the current physical activity opportunities for the Thomaston-Upson School System; and (2) identify the barriers and facilitators associated with increasing physical activity opportunities for students through evidence-based physical activity programs. The School Health Policies and Practices Study (SHPPS) (CDC, 2011, SHPPS) served as the basis for development of the survey for this study.

The Survey Participants

The eligibility requirements for participation in the survey included: currently serving as a principal/director, assistant principal/director, teacher, paraprofessional, school nurse, or elementary curriculum coordinator in the pre-kindergarten center or elementary schools, or a Board of Education member of the Thomaston-Upson School System.

Sampling Process

During this first quantitative phase, the researcher electronically distributed surveys to all of the principals, teachers, and paraprofessionals of the elementary schools to evaluate the current curriculum being used to engage students in physical activity and to identify barriers and facilitators associated with increasing physical activity for students through classroom-based physical activity curriculum (Research Questions 1 and 2). Participants were asked to complete the survey between November 1, 2011 and January

30, 2012. The Thomaston-Upson school system consists of one prekindergarten center, two elementary schools, one middle school, one high school, and one alternative school. The schools which were focused on for this study were the prekindergarten center and the two elementary schools. The total number of Board of Education members, principals/directors, assistant principals/directors, teachers, paraprofessionals, school nurses, and elementary curriculum coordinators listed in the directory was 250. Although the population for this study was small, it was unreasonable to expect a 100% participation rate. The survey was distributed to all of the personnel with an 80% minimum anticipated participation rate. The actual sample size totaled 236 due to vacancies within the school system at the time of the study. Of the sample, a 23% response rate was achieved (n = 53) for the online survey.

Survey Development

The researcher conducted a literature review of previously developed surveys which were used to assess physical activity curriculum, and barriers and facilitators to conducting physical activity. Based on the literature review, the quantitative phase consisted of survey questions generated from an existing instrument, the 2006 School Health Policies and Practices Study (SHPPS) (CDC, 2011, SHPPS). The SHPPS is distributed every six years by the National Center for Chronic Disease Prevention and Health Promotion to comprehensively assess school health policies and practices in the United States at the state, district, school, and classroom levels across the nation. The SHPPS consists of four components: the Physical Education State Questionnaire, the Physical Education District Questionnaire, the Physical Education School Questionnaire, and the Physical Education Classroom Questionnaire (CDC, 2011, SHPPS).

To ensure questions were appropriate for the participants of this study, the survey for this study was developed based on questions from the Physical Education School Questionnaire and the Physical Education Classroom Questionnaire from the 2006 SHPPS. The surveys were not used in their entirety. Only questions that were found to be pertinent to this study were adapted for this survey based on their relevancy to the research questions which were categorized based on the constructs of the Stage Theory of Organizational Change.

Authors have reported meaningful and useful inferences from previous scores on the instruments to establish validity and reliability (CDC, 2011, SHPPS). The 2006 SHPPS questionnaires were developed over a 12 month period and consisted of several steps to determine validity and reliability. First, Centers for Disease Control experts examined each individual item to determine the content was up to date. Secondly, all of the draft questionnaires were revised and distributed to a nationwide list of reviewers for comments to be incorporated into the questionnaire. At the same time, cognitive interviews were conducted with staff from several districts and schools to ensure the question items were understood as the writers intended. After follow-up interviews were conducted and the questionnaires further revised, each one was scrutinized to determine if it should be divided into modules to allow related questions to be grouped. Once all of these steps were completed, the questionnaires were distributed. (Kyle et al., 2007)

Because the original instruments were modified and combined for use in this study, validity and reliability were reestablished prior to distribution of the survey. Construct validity was established using the constructs from the Stage Theory of Organizational

Change. The survey was pilot tested with elementary school principals, teachers, and paraprofessionals outside the Thomaston-Upson School System, to establish face validity. The pilot test was conducted with members of a school system similar in size and locality to that of Upson County. The surveys were sent to the participants by email, which was the same form of administration for the study. After pilot results were received, the researcher met with the respondents to discuss the survey in order to ensure proper understanding and proper interpretation of the questions in order to make improvements to the questions, format or scales as necessary. Reliability of the survey was conducted using Chronbach's Alpha statistic (.718) to determine inter-item correlation for internal consistency of the survey. The survey was distributed once the study design and instrument were completed and approval was received from the Institutional Review Board at Georgia Southern University and Mercer University.

Survey Administration

The researcher administered the survey electronically using Qualtrics Research Suite, a software suite that allows researchers to create online surveys as well as conduct statistical analysis (Qualtrics, Inc., 2011). Having already received approval to conduct this study with the Thomaston-Upson School System from the Board of Education, the researcher consulted with the two principals and director to discuss the survey process. The principals and director were informed that the survey process included sending an informed consent form (Appendix D) and the survey to the sample population. Once the process was reviewed, notices were sent to all school personnel that they would receive an email request to participate in the survey along with the date the survey would be sent.

The link to the informed consent and survey was sent to each individual's Thomaston-Upson School System email address along with instructions for completing and submitting each of the two documents. The informed consent also was sent through the Qualtrics survey system. The form contained information regarding the study; discussed the risks and benefits of the study and the ability of the participant to terminate at any time. When the participant agreed, the consent form was signed electronically and the researcher and the participant maintained a copy.

The schools were contacted in advance for notification of the time-frame for accessing and completing the survey. Upon providing a positive consent, the participants were then directed to the survey for completion. Once the survey was complete, the participant either accepted or denied the opportunity to receive incentive pay by providing their mailing address. After the researcher retrieved the data, the mailing information and names were separated from the answers to the survey. The mailing information was only used to send the participant the incentive, $10 cash, for participating in the survey and was kept completely separate from the data results.

Data Analysis

Once the surveys were completed, validation checks took place to ensure no invalid codes had been entered and verification of data was conducted. All data were entered into Version 19 of the SPSS data analysis program using a coding system (i.e. yes = 0, no = 1). The data were analyzed for descriptive frequencies.

The results of the surveys indicated the amount of physical activity students were currently engaged in, determined the amount of increase needed for physical activity, and provided insight into individual beliefs regarding the increase of in-school physical activity. This information also was used to further develop interview questions for the qualitative phase, which was the second phase of this study.

Qualitative Data Collection

The qualitative phase was the second phase of the study. To comprehensively answer all research questions, it was imperative to conduct interviews using questions that were developed to further examine and expand upon the data collected through the surveys. Therefore, the interview questions were developed using the analysis of the quantitative data as a building block. The interviews gained additional insight and themes regarding the three research questions: (1) identify the current physical activity opportunities for the elementary school children in the Thomaston-Upson school system; (2) identify the barriers and facilitators associated with increasing physical activity for students through evidence-based physical activity programs; and (3) identify the most effective method for increasing physical activity within the Thomaston-Upson School System. The interview questions were organized according to the Stage Theory of Organizational Change (Appendix E).

The Interview Participants

The eligibility requirements for participation in the interview included: currently working as a principal/director, assistant principal/director, teacher, paraprofessional, school nurse, or elementary curriculum coordinator in the pre-kindergarten center or

elementary schools, or a Board of Education member of the Thomaston-Upson School System. Individuals were selected from the list of survey participants and were representative of the Board of Education, all three schools and all grade levels.

Sampling Process

During this qualitative phase interviews were conducted with principals, teachers, and paraprofessionals of the elementary schools to further evaluate the current opportunities provided to engage students in physical activity and to identify barriers and facilitators associated with increasing physical activity for students through evidence-based physical activity programs (Research Questions 1 and 2). It also provided preliminary information regarding the most effective method for increasing levels of physical activity (Research Question 3). The Thomaston-Upson school system consists of one prekindergarten center, two elementary schools, one middle school, one high school, and one alternative school. The schools which were focused on for this study were the Upson-Lee Pre-Kindergarten Center, Upson-Lee North Elementary, and Upson-Lee South Elementary. The total number of Board of Education members, principals/directors, assistant principals/directors, teachers, paraprofessionals, school nurses, and elementary curriculum coordinators was 250.

To determine the appropriate number of interviews which should be conducted, the process of theoretical saturation was applied. Initially, approximately 5-7 individuals from each group (Board of Education and school personnel) were interviewed until theoretical saturation was reached. Therefore, it was expected that approximately 10-14 interviews would be conducted over the course of this study. The researcher ceased conducting

interviews once data collection, analysis and theory no longer generated new themes and information. A total of 18 interviews were actually conducted. See Appendix F for a table describing the theoretical saturation process used to determine the number of interviews.

The participants for the interviews were chosen using the stakeholder sampling strategy. This type of sampling is particularly useful in the context of policy analysis and involves identifying the major stakeholders involved in designing, giving, and administering the program being evaluated and who might be affected by it (Given, 2008, pp. 697-698). The names of the survey participants, which were originally separated from the survey results, were reviewed to determine the stakeholders who should be interviewed. Several participants from the two major groups, Board of Education and school personnel, were contacted to request their participation. Because the two groups were already narrowed down, there was no need to search for individuals who cover a broad spectrum of positions and perspectives using maximum variation sampling.

Interview Protocol Development

The researcher developed and categorized the interview protocol based on the Stage Theory of Organization Change. The questions were grouped according to the first two constructs of the theory, awareness and adoption, in addition to the three research questions. A copy of the interview protocol is located in Appendix C. Additional questions were developed and added to the interview protocol as appropriate based on the results from the quantitative data analysis. Areas which were identified as needing more detailed and in-depth information in the quantitative phase were addressed through the addition of interview questions.

Lincoln and Guba's Evaluative Criteria were applied to establish confirmability, credibility and transferability. The researcher established confirmability by checking transcripts to make sure no obvious mistakes were made during transcription. The researcher also consistently and constantly reviewed the data to ensure that no drifting in the definition of codes occurs. In order to ensure validity, the researcher must assess the accuracy of findings in addition to convincing others of finding accuracy (Creswell, 2009). To achieve this, the researcher utilized the following credibility and transferability strategies: use of rich, thick description to convey the findings, member-checking, and prolonged engagement (Lincoln and Guba, 1985). The researcher used thick description to portray the reality of the results. Member checking occurred by providing a final report to the participants and allowing opportunity for them to comment on the findings. Finally, the researcher spent a prolonged time in the field. The researcher had been involved with the community under study for approximately two years through family members who live there and as a faculty advisor to medical students conducting annual visits with physicians in the community. Additional time spent in the community conducting interviews allowed the researcher to have an in-depth understanding of the physical activity levels in addition to providing detail to enhance the reality and richness of the narrative. The interviews were conducted once the study design and instrument were completed and approval had been received from the Institutional Review Boards at Georgia Southern University and Mercer University.

Interview Conduction

The researcher conducted all interviews. Each interview was audio recorded with notes taken by the researcher during each interview. Having already received approval to conduct this study with the Thomaston-Upson school system from the Board of Education, the researcher contacted each participant through their Thomaston-Upson school system email with information concerning the study and a request for their participation. Participants were chosen from the survey participants based on the criteria previously mentioned for the pool of survey participants. Individuals from each category were contacted to ensure all levels were represented. The researcher followed up with a phone call to each interview participant to provide further insight into the study and schedule an interview time and location.

The interviews took place in a convenient location for each participant, either in a quiet and comfortable room at the Board of Education office or somewhere familiar to the participant, such as the school where the person was employed. At the beginning of each interview session, the researcher reviewed the informed consent process with the participant (Appendix D). The form contained information regarding the study including the risks and benefits and the voluntary nature of the study. Participants also were notified that the session was recorded strictly for transcription purposes related to this study. When the participant agreed, the consent form was signed and the researcher and the participant maintained a copy. Once the interview was complete, the participant received a $25 cash incentive.

Data Analysis

All interviews were transcribed verbatim within 48 hours of the interview and entered into the MAXQDA qualitative data analysis program. The MAXQDA qualitative data analysis program allows researchers to evaluate and interpret text (MAXQDA, 2011). The program was used to code the data based on the three topics identified through the research questions and theory as well as those identified through the interviews to identify emerging themes. The information was organized into a qualitative data analysis matrix (Appendix E) where it was grouped according to the constructs of the Stage Theory of Organizational Change and the research questions.

Themes were developed based on word repetitions and constant comparison. The qualitative data analysis tool, MAXQDA, was used to generate a list of all the unique words in the text by analyzing word frequencies. These words were used for themes to actually code the texts (Appendix E). The researcher also conducted a line by line analysis using the compare and contrast approach to identify texts that were similar or different from each other in order to determine themes and codes. Based on the themes and codes identified in the qualitative phase, information regarding the barriers, resources, and preferences for implementing classroom-based physical activity was established and presented to the Thomaston-Upson school system. The response from the school system determined whether or not a specific type of classroom-based physical activity program is appropriate for implementation into the school system to increase physical activity among students during the school day.

Assumptions

It was assumed that participants would participate in this study without fear of being individually identified and subsequently reprimanded for information and comments they may provide. Furthermore, it was assumed that participants would participate in the study and provide the necessary documentation in order to receive the incentive, despite the need to provide confidential information. The researcher took measures to ensure that confidentiality was maintained at all levels of the study.

Ethical Considerations

Ethical issues related to protection of participants were addressed through an ongoing informed consent process between the researcher and the participants at every stage of the study. Approval to interview and survey the board members, principals, and teachers was gained through the Internal Review Boards of Georgia Southern University and Mercer University. The ethical issues which were addressed included fear and distrust, protection of participants, and respect for the site. The limitation of fear and distrust was addressed by the fact that a relationship had already been established between the researcher and the school system. The researcher secured confidence and trust having previously discussed possible research topics with hospital executives in Upson County. This established relationship facilitated gaining permission from the Board of Education and principals to conduct the study.

Ethical issues related to protection of participants were addressed. Principals and teachers may have been apprehensive about providing their opinions regarding the

physical activity that is currently in place if they felt there was a chance they may be reprimanded for them. However, all individuals who completed the interviews and surveys were completely disassociated from their responses. Signed consent forms, which assure confidentiality, were a requirement in order to complete the interviews and surveys. In addition, so as not to interrupt the school day and teaching schedules, the interviews were conducted at sites and during times which were most convenient for participants.

Chapter Summary

This chapter was used to provide detailed information regarding the methods used for this study. The mixed methods design was outlined, explaining the procedures for sampling, data collection, and data analysis for both quantitative and qualitative data. Finally, any limitations and assumptions regarding the study were provided and explained. Results from the two phases of data collection and analysis are found in Chapter 4.

Chapter IV: Results

Introduction

The purposes of this dissertation was to determine the need to implement school policy changes in an effort to increase school physical activity levels for children in grade pre-kindergarten through five by utilizing the Stage Theory of Organizational Change. The theory was applied in the assessment of the opportunities currently offered for physical activity to determine if they sufficiently provide the recommended levels of physical activity and to identify the barriers and facilitators to increasing physical activity for elementary school aged children in kindergarten and elementary school. This information was then used to determine the best evidence-based methods for increasing physical activity within the public school system. This chapter provides the quantitative and qualitative analysis results to answer the associated research questions.

Quantitative Analysis

The original number of active participants in the school system was 250. However, by the time of the survey, 14 of the participants either were on leave or no longer employed with the school system. Therefore, the available sample size totaled 236. Of the available sample, a 23% response rate was achieved (n = 53) for the online survey. Five of the surveys were removed because they did not include answers to questions 11-13 (Appendix B) which revealed the actual amount of physical activity students receive during the day, leaving 48 surveys to be analyzed. The analysis of the quantitative data revealed specific

areas which needed to be further explored through interviews and informed the questions for the interviews for the qualitative data collection.

Qualitative Analysis

A total of 18 interviews were conducted with survey participants among the two main groups involved in the school system, the Board of Education members and school system personnel. Interviews were transcribed verbatim based on the audio recording and notes taken during the interview within 48 hours after each interview. The data were then entered into the MAXQDA program for coding to determine additional emerging themes. The information was organized using a qualitative data analysis matrix to form themes according to the constructs of the Stage Theory of Organizational Change and outcomes (See Appendix E).

Descriptive Statistics

Demographic Characteristics

The study was conducted from November 1, 2011 to April 30, 2012. Basic information describing the demographic characteristics of the study population is shown in Table 1. A large percentage, 89.6% (n=48), of the respondents indicated a specific role in the school system. Those who did not indicate a specific role were associated with grades 5-6. The majority of the respondents (50%, n=48) were employed with grades 4-5, followed by grades K-3 (42%, n=48), pre-kindergarten (4%, n=48), and the Upson-Lee Board of Education (4%, n=48). All grades, Pre-K – 5, and administrative levels were represented in the survey. However, there were no responses received from school nurses and curriculum coordinators.

Table 1
Demographic Characteristics by School Location and Role

Grade Level	Role	n	%
Board of Education	School Board	2	4.2%
Pre-kindergarten	Director	1	2.1%
	Pre-K Teacher	1	2.1%
Grades K-3	Principal	1	2.1%
	Kindergarten	5	10.4%
	1st Grade Teacher	4	8.3%
	1st Grade Paraprofessional	1	2.1%
	2nd Grade Teacher	3	6.3%
	3rd Grade Teacher	5	10.4%
	Unidentified	1	2.1%
Grades 4-5	4th Grade Teacher	7	14.5%
	5th Grade Teacher	7	14.5%
	Music Teacher	2	4.2%
	Unidentified	4	8.3%
	Assistant Principal	2	4.2%
	Physical Education Teacher	2	4.2%
***n*=48**			

Research Question 1

The first research question asked, "Do the current physical activity opportunities within the Thomaston-Upson School System provide the recommended amount of physical activity for elementary school age children?" This question was answered through a series of sub-research questions (SRQ), which were aligned with the awareness stage of the Stage Theory of Organizational Change. Using this stage, the awareness level of school personnel was assessed related to physical activity engagement during school hours.

SRQ: How often are elementary school aged children in the district required to participate in physical activity? The themes from this question focused on the grade level, and number of days and minutes students are required to participate in physical activity

while at school. Descriptive statistics revealed that all survey participants (100%, *n*=48) agreed the students must take physical education as a requirement for graduation or promotion to the next grade at each grade level, pre-kindergarten through 5th grade. However, only 8.3% (*n*=48) specifically stated that students are required to take physical education during every grade level 1-5 as shown in Table 2.

Results showed that students are limited by the number of days they are required to take physical education as well as the amount of time they spend in class. The number of days that students are required to take physical education was consistently reported among participants as two days per week. Students are only required and scheduled to take the class two days per week for a minimum of 30 minutes each day (Table 3). The students may not be active for the entire thirty minutes each day as, according to 87.5% (*n*=48) of the respondents, the schools require those who attend physical education class to exercise or play sports for at least 30 minutes (Table 4). Therefore, students may only be active for a minimum of 15 minutes during each physical activity session.

Table 2
Grades in which Children Receive Required Physical Education

Grade Level	# of Responses	Percent
1st, 2nd, 3rd	16	33.3
1st, 2nd, 3rd, 4th	1	2.1
1st, 2nd, 3rd, 4th, 5th	4	8.3
4th	1	2.1
4th, 5th	17	35.4
Pre-k	2	4.2
Pre-k, 1st, 2nd, 3rd	6	12.5
n=48		

Table 3
Number of Week-Days Physical Education is Required

Number of Days	# of Responses	Percent
0 Days	1	2.1
1 Day	5	10.4
2 Days	37	77.1
3 Days	2	4.2
5 Days	3	6.3
n=48		

Table 4
Length of Physical Education Session in Minutes

Session Length (minutes)	# of Responses	Percent
At least 60 minutes	6	12.5
At least 30 minutes	42	87.5
n=48	48	100.0

The survey results provided information regarding the time associated with student physical activity but it did not reveal the reason for the limited amount of physical activity. This information was gained through the qualitative data using the following interview question: **What is the school's current format for providing physical education?** The data revealed that the physical activity curriculum is offered in a limited format in order to allow time for other elective classes. As the following supporting responses show, the physical education class is offered by certified physical education teachers on a rotating schedule with computer, art, and music allowing students to attend P.E. during two 30 - 45 minutes classes per week.

Supporting Responses

We rotate CAMP activities (computer, art, PE , and music) daily. We have PE two days a week for 45 minutes each day.

Currently we have four specials classes (CAMP – Computer, Art, Music, PE) with two days of P. E. and one of the other classes. Each class is 45 minutes.

SRQ: What other opportunities, outside of physical education class, are available for physical activity during the school day for each grade level (i.e., homeroom, lunch, recess, etc.)? Almost all survey respondents (97.9%, *n*=48) reported that students do engage in some level of physical activity outside of physical education class. However, 62.5% (*n*=48) reported that students are not ***required*** to engage in additional physical activity outside of physical education on any days during the week. The one constant activity through which students achieve additional physical activity is recess when weather permits as reported by 95.8% (*n*=48) of the respondents. Other methods of physical activity during the school day outside of physical education include some dancing in music class (2.1%, *n*=48) and centers in the classroom (2.1%, *n*=48).

SRQ: Does the school district currently incorporate physical activity into other subjects that are taught in the classroom and how? Sixty percent of respondents encourage physical activity in the classroom beyond that required during physical activity. However, only 12% (*n*=48) of the respondents actually incorporate the physical activity into specific courses/subjects. Table 5 lists the types of physical activity that students engage in while in the classroom and the specific subject areas in which they are incorporated. The classroom-based programs such as Take 10! and Catch were not specifically identified

although 25% of the respondents reported using these types of physical activity in the classroom.

Table 5
Classroom Physical Activity Engagement by Type and Subject Area

Type of Physical Activity	Number of Responses	%	Subjects in Which Physical Activity is Incorporated
Free Play	16	33%	
Guided activities (stretching, 5 minute energizers, etc.)	25	52%	
Classroom based physical activity programs (Take 10!, CATCH, etc.)	12	25%	Language Social Studies Math Science Music Reading Tests
BrainObics	1	2%	
Dancing	1	2%	
Music and Movement	2	4%	
Fun Learning Games	1	2%	
Lessons requiring physical movement	2	4%	
None	3	6%	
n=48			

The survey results identified other opportunities for physical activity which are made available to the students outside of physical education class. However, the survey results did not provide information regarding the content and focus of the physical education curriculum or specific activities engaged in during the other opportunities. Therefore, it was still unclear how much activity students were actually engaging in during the class. The survey data also showed that the students may not be physically active the entire time requiring further inquiry into the content of the curriculum. More direct interview questions were asked in order to identify specific activities that students engage in during physical education and to determine if the curriculum aligns with that of other

schools in the state. The interview questions and data gained from the interviews are provided with supporting responses to portray a more in-depth description of physical activity engagement by students during the school day.

Interview Question: What are the overall goals or focus of the physical education curriculum? The informants agreed that goals of the physical education curriculum are to promote good health habits, daily exercise, and physical activity. The curriculum is designed to help students develop basic physical abilities in order to get moving and become physically fit to combat childhood obesity. Additionally, the curriculum is used to address health and safety so not all of the time spent in physical education class is dedicated to being physically active.

Supporting Responses

The physical education curriculum focus is promoting good health habits, daily exercise, outside recreation, and more physical activity to increase stamina.

We are trying to combat obesity. It's in the news everywhere. We are trying to get it with our students because our parents are not. We try to make sure our students get the exercise they need. The first lady asked us to help fight obesity, so we got on the bandwagon. It's not a vigorous curriculum because of their age – balance beam, hop, skip, jump, run, and those kinds of things…jumping jacks.

Interview Question: How does your school district's physical activity requirements compare to other school districts in the state? While many of the informants were not sure of specific measures by which the school physical activity requirements are evaluated, they felt that their school physical activity requirements are similar to other schools in the

state. They also reported that the Upson County schools follow the Georgia Performance Standards or state guidelines, which are followed by other schools in the state. The fact that Upson County has at least three coaches at one school is seen as an indicator that the students are receiving adequate levels of physical activity according to the responses.

Supporting Responses

Not being sure of numbers and statistics, I would say that our schools offer more P. E. than most schools. We also have three P. E. coaches so I feel that they get the two days a week and that is a good amount of time compared to other schools.

We are favorable with the state because the state requires… I know we are in guidelines with the state. Our superintendent is strict with sticking with state guidelines so that's what she requires of the teachers.

Research Question 2

The second research question asked "What are the barriers and facilitators associated with increasing physical activity for students?" To answer this question, survey respondents were first asked questions to identify barriers to physical activity. Specifically, they were asked about the use of physical activity and/or excluding students from physical activity as discipline for bad behavior. They were asked whether they were allowed to and discouraged from applying physical activity to disciplinary measures. Approximately 85% (n=48) of the participants stated that staff members at the school are not allowed to use physical activity such as running laps or doing push-ups to discipline students for bad behavior but only 67% (n=48) reported that they are actually discouraged from doing so. While staff members are not allowed to force students to engage in physical activity for

disciplinary measures, they are allowed to exclude students from opportunities to engage in physical activity outside of physical education such as recess (88%, *n*=48).

The barriers identified through the survey relate to the use of physical activity for disciplinary measures which result in decreased physical activity during the day. Therefore, there was a need to identify additional barriers to providing the recommended amount of physical activity and the methods by which these barriers are overcome. In order to achieve this outcome, two interview questions were asked as discussed below along with major themes and supporting responses.

Interview Question: What makes it difficult to provide the recommended amount (60 minutes or more daily, US Department of Health and Human Services, 2008) of physical activity for your students? Inhibitors to providing 60 minutes of physical activity daily included limited time for physical activity due to rotation of computer, art, music, and physical education. Other inhibitors included the requirements for academic instruction time, pressure to make annual yearly progress (AYP), and classrooms that are small in size. Funding for the schools is based on the amount of instructional time provided for each student. Therefore, teachers would prefer to spend time providing instruction than allowing students to be physically activity if it means they will receive the necessary funding to staff their positions.

Supporting Responses

No Child left behind and in the past AYP. The focus has been on academic reading and math scores. There were many years we were not allowed to have recess and I teach 5th grade. So, that was very difficult to keep the children focused for that long without

a break. There has been such high stress on the academics. Also with the change in standards it has taken some of the creativity out of teaching where teachers could have been getting the students up and active. Now there is so much to cover in a certain time that there is no time to get the physical activity in.

The size of the classroom and the size of the students. There is not much room in the classroom. Kids are getting bigger and I have 29 students in my homeroom. So it would be hard to do in the classroom.

Interview Question: How does your physical education overcome these difficulties? There was one resounding theme in relation to this question. The difficulties are not overcome. Informants clearly stated that the barriers are too complicated for them to overcome. It is more feasible for them to accept the fact that the students are not going to receive the recommended amount of physical activity and go on with their planned activities. They provided many supporting statements as to why the difficulties are not overcome.

<u>Supporting Responses</u>

I don't think they do overcome the difficulties. I don't see a lot of creativity to incorporate physical activity. I think it would be great if they (P.E. coaches) could incorporate physical activity into the classroom.

It does not overcome them. We just move along with our day and forgo the physical education activities.

Survey respondents also were asked about collaborative efforts which may or may not be in place to facilitate physical activity. The results revealed that there are currently no collaborative efforts in place to allow input from parents, students, or teachers to facilitate the increase of physical activity (Table 6). According to 73% (*n*=48) of respondents, physical education staff has not worked with other teaching staff to address physical activity. In addition, the school has not met with parent organizations (73%), family members (79%), students (69%), or teachers (77%) to discuss physical education or acquire suggestions about the physical education components of the curriculum. The school has not discussed incorporating physical activity into other components of the school day outside of physical education (69%) to facilitate physical activity. Staff also reported that they have not received any staff development on methods to increase the amount of time students are physically active (92%) or using physical activity monitoring devices such as pedometers (94%).

Table 6
Collaborative Efforts to Discuss Physical Activity in Schools

Collaborative Group	**Yes (%)**	**No (%)**
Parent Organizations	19	73
Family Members	15	79
Students	25	69
Teachers	17	77

n=48

The majority of respondents (77%, *n*=48) reported that they would be interested in incorporating physical activity into the classroom but do not have the necessary resources to do so. When asked about the resources they would need to incorporate physical activity into the classroom outside of physical activity, respondents provided the following list:

- Additional classroom assistance (4%, *n*=48),
- More time in the day (54%, *n*=48),
- Help in preparing lesson plans to include physical activity (25%, *n*=48),
- Support from school administration (2%, *n*=48),
- Materials (2%, *n*=48), and
- Unit planning time (2%, *n*=48).

These survey results are supported by answers to an interview question which was developed to allow for identification of other facilitators to providing recommended amounts of physical activity. **Interview Question: What makes it easy to provide the recommended amount (60 minutes or more daily, US Department of Health and Human Services, 2008) of physical activity for your students?** The main enablers to providing at least 60 minutes of physical activity on a daily basis included a structured schedule for physical education, regularly scheduled recess, and well-trained staff with equipment and facilities. Informants readily admitted that offering at least 60 minutes of activity daily is not easy. However, they make the most of the days when students are able to engage in physical education and recess. The school buildings are very large so teachers also consider the amount of time spent moving from the classroom to other activities or classes as enhancing the total time spent moving during the day.

Supporting Responses

- *Students have structured P.E. twice a week. Students are encouraged to be engaged in physical activity at recess. It is easier on the days that P. E. is available.*

- *It is not easy because we can do it only two days a week and there is not that much time in the school day to provide physical activity for everyone. Of course the school is big so they get a lot of walking in during the day.*

Research Question 3

The first two research questions focused on the awareness levels of staff regarding the physical activity policies and procedures which are currently in place. The next step was to identify readiness to adopt and best methods for increasing physical activity levels during the school day. The third research question asked "What is the most effective method to increase physical activity for the Thomaston-Upson School System?" The survey questioned staff about use of methods to provide additional physical activity beyond that provided in physical education class. Sixty percent of respondents stated that they provide additional activity through activities such as free play, guided activities and classroom-based activities.

The survey question only allowed responses to one specific method for providing additional physical activity. However, no additional information was obtained to identify other effective methods which should be considered to increase physical activity. Nor were there survey questions which identified the willingness of and feasibility for staff to incorporate more physical activity into the school day. Therefore, additional interview questions were developed to provide the participants an opportunity to provide their opinions on the most effective methods to increase physical activity levels and whether or not these methods could feasibly be adopted into the schools. In order to achieve this

outcome, four interview question were asked as discussed below along with major themes and supporting responses.

Interview Question: What do you think is the best way to provide opportunities for increased levels of physical activity for students? Ideas to provide increased physical activity for children during the school day focused on incorporating more opportunities at school. The main themes were inclusion of physical activity in the classroom, integration of movement with core academics, and provision of additional time during the school day being allocated for physical activity. Informants expressed that there are opportunities for additional inclusion of physical activity, despite the survey responses that some teachers provided. It would be necessary to maintain control in the classroom while still allowing students to move around.

Supporting Responses

I feel like integrating physical education along with academics is a good way. It's a good way to incorporate movement. We have to find ways to get them up and moving. Many teachers are afraid of that because they don't want the kids to get crazy. But, I feel like the children are more likely to sit still and learn after getting in some wiggle time. You just have to get creative about how you can get them up to move.

I think using some kind of structured program. Maybe every twenty minutes incorporate physical activity into the classroom. But I don't know if it will go over well in the classroom though I do think it is doable for the teachers. If we did 2 or 6 minutes every 20 minutes for an hour I don't think that would detract from academics but help to refocus the kids. Just some type of activity.

Interview Question: How open would you be to incorporating an intervention to provide increased physical activity for students during the school day? The main message from participants regarding incorporating an intervention to provide increased physical activity is that they are very willing and open to trying. However, they do not want anything to interfere with ensuring the students are getting the full amount of instruction and state regulations for academics are followed. The incorporation of additional physical activity would require permission from the state and the assurance that training is provided while academics instruction is not interrupted.

Supporting Responses

I think that would be absolutely wonderful. As you know, elementary kids have tons of energy and are required to sit there. I think exercise stimulates the mind and leads to creativity.

I would be very interested. I've often said that if I knew more strategies or had access to more resources and information to get different ideas, more people would be more willing. A lot of people do not know how to integrate and may not have seen a classroom that allows this.

Interview Question: What have you heard about programs such as Take 10! And Go for Health? The majority of the participants had not heard about these types of classroom-based programs. Only three informants actually knew something about these programs and how they work. Some had heard of these programs to some degree or knew of teachers in other school districts who may be implementing these types of programs. However, many of the respondents were interested in getting more information about

these types of programs to improve children's learning abilities and to improve stress management for the teachers.

Supporting Responses

Take 10! not only benefits the children, it benefits the teachers also. It also enhances children's learning abilities and improves stress management for the teachers.

Just what I've heard through the media and some of the other districts. When we go to our state school board conferences, we hear how other school systems are using those programs.

Interview Question: What is the feasibility of incorporating a classroom-based physical activity program in the Upson County elementary schools? The informants expressed the feasibility of incorporating a classroom-based physical activity program only if it does not take away from academics. They responded that teachers would need to receive proper training to ensure they feel confident in incorporating this type of program into the classroom while still maintaining academic standards. It is important that administrators are agreeable in order for this type of classroom-based program to work within the school system.

Supporting Responses

I personally think that people would be receptive to do it and it sounds like something that could be reasonably accomplished. Because we are such a big school, I think they would like to provide more physical education and this would allow them to do this without actually having to use our physical education teachers. I think our teachers

would be receptive to this as well. I think that if the teachers knew more about this type of program, they would be receptive to participating.

I think that is very doable or workable if teachers understand what the program is and how they can use it. And agree it does not take away from instructional time for students to pass the CRCT.

Chapter Summary

The results from the survey provided insight into the awareness levels of school staff as well as the willingness and readiness to adopt policy regarding the current level of physical activity in the school system. The surveys revealed themes which were elaborated upon through the use of interview questions. Overall, staff members were very knowledgeable of the policies and procedures for physical activity. They also revealed that they are willing to incorporate additional physical activity opportunities within the classroom if provided with the proper resources and support. A discussion of the results is provided in Chapter 5.

Chapter V: Summary Discussion and Conclusions

Goal of the Project

The goal of this study was to determine the need to implement school policy changes in an effort to increase school physical activity levels for children in grade pre-kindergarten through five. This was achieved by assessing the opportunities currently offered for physical activity to determine if they sufficiently provide the recommended levels of physical activity and by identifying the barriers and facilitators to increasing physical activity for elementary school aged children in the Thomaston-Upson School System**.** The Stage Theory of Organizational Change served as the framework for this study by explaining the different stages organizations pass through to recognize the need for change, then adopt, plan and implement new ideas, programs or policies. This chapter provides a discussion of the results in addition to providing implications of the results and recommendations.

Discussion of Relevant Findings

Data Collection Process

Surveys were conducted to assess the current physical activity opportunities within the Upson County school district. The surveys also were used to identify specific barriers and facilitators to increasing opportunities for physical activity within the school day. The surveys were distributed to 236 employers and Board of Education members for Upson

County schools. The minimum anticipated response rate was 80% in order to ensure a representative sample of all grade and administration levels. The actual response rate was 23% (*n*=53) using an online survey. Despite the low response rate, all administrative levels and each grade level was represented. The paraprofessionals, with the exception of one, school nurses, and curriculum coordinators did not respond. Messages were received from staff in these three positions indicating that they did not feel knowledgeable enough about the physical activity level of the students to accurately answer the survey. Although the school principals, superintendent, and board members agreed to allow the research to be conducted, these groups had some of the lowest number of responses for the survey. However, all board members participated in the interview with the exception of one.

The qualitative interviews were conducted to explore themes from the surveys in order to identify the opinions and perspectives of the two main groups represented in the sample population, Board of Education members and school personnel, on physical activity engagement. A total of 5-7 interviews were to be conducted for each group. A 100% response rate was achieved with a total of 7 Board of Education members and 11 school personnel being interviewed until theoretical saturation was reached.

Research Question 1

Do the current physical activity opportunities within the Thomaston-Upson school system provide the recommended amount of physical activity for elementary school age children? This question was asked to determine the awareness level of school system personnel regarding the amount of physical activity the students are engaged in on a daily basis. The answer to this question based on qualitative and quantitative data collected is

no, at least 60 minutes of physical activity opportunities is not provided for the students on a daily basis. While the physical activity opportunities do not provide a minimum of 60 minutes of physical activity daily, students do engage in physical activity twice a week in grades pre-kindergarten through five for a minimum of 30-45 minutes during physical education, and modestly when other opportunities are available. These results are consistent with those from the Youth Risk Behavioral Surveillance System that showed children were not physically activity for at least 60 minutes per day on all seven days of the week (CDC, 2010).

In addition to physical education, other opportunities for physical activity such as recess were described, although at minimal levels. Ninety-six percent of respondents acknowledge that recess is the one constant activity through which students are usually able to achieve physical activity on a daily basis. However, recess tends to last for only 15-20 minutes and can be cancelled if weather does not permit or other events take precedence. So on the days that children have physical education and recess, they receive 60 minutes of physical activity, although this may only occur twice a week.

As Steckler et al. (2003) indicate physical activity can be increased by including movement within the classroom outside of physical education class. Only 12% (*n*=48) of the respondents from this study actually incorporate physical activity into specific courses/subjects. They accomplish this through the use of activities including stretching, energizers, and classroom based physical activity programs that are incorporated into subjects such as language, social studies, math, science, music, and reading and during testing. Unfortunately, all teachers do not incorporate these additional activities at any

given point during the day, nor are they included on a regular basis. Therefore, these activities do not necessarily significantly increase the amount of physical activity that students engage in during the school day. The results are consistent with findings from other studies revealing that schools offer physical activity in insufficient amounts (Kahan, 2008; Kaur, Hyder, & Poston, 2003).

There were several reasons identified for not being able to offer physical education on a daily basis. The actual amount of physical activity engagement is significantly impacted by the mandate from the federal and state level to focus on academics to increase testing scores and the need to offer other elective courses such as computer, art, and music. These findings correlate with those of Story, Kaphingst, and French (2006) which revealed that more states are using standardized tests to hold schools and students accountable for academic performance, ultimately forcing physical activity out of the schedule. Additionally, the requirement to rotate computer, art, and music with physical activity significantly impacts the amount of physical activity as the students are only in school five days a week. As previously mentioned, the policy for the state of Georgia provides a minimum of 90 contact hours of instruction in health and physical education for grades kindergarten through five (National Association for Sport and Physical Education, 2010). The requirement of less time than the recommended 60 minutes per day significantly decreases the required and scheduled amount of physical activity children engage in as most schools focus on the minimum amount required in order to fulfill academic requirements. These variables ultimately determine if students spend more or less time being active and how much physical activity the children actually get while in school.

Whereas respondents indicated that the schools are following the Georgia Performance Standards, they are unsure if the amount of physical activity offered is comparable to other schools in the state of Georgia. Regardless of whether the amount of physical activity offered for Upson County schools compares to other schools in the state, if all schools are merely adhering to the state guidelines, they are not offering the recommended amount of 60 minutes per day of physical activity for their children. This is a concern that reaches beyond the boundaries of Upson County and expands across the state.

Research Question 2

What are the barriers and facilitators associated with increasing physical activity for students? Several barriers and facilitators were identified through the surveys and interviews based on policies and personal preference among teachers. One facilitator related to policy includes staff not being able to use physical activity as punishment. This prevents students from viewing physical activity as something negative that they have to do for misbehaving in school. However, teachers are allowed to exclude students from physical activity opportunities, such as recess, as a disciplinary measure. Teachers reported that recess actually facilitates students engaging in 60 minutes of physical activity on the days that they have recess and physical education. However, if students are being punished by not being able to engage in recess, that contributes to the decreased level of physical activity for that day. These results are similar to those of Vann et al., (2011) which identified taking away playtime for misbehaving as a barrier to physical activity. Maintaining a structured schedule for physical education and recess ensures that students are able to engage in physical activity for at least 60 minutes on the days both are

incorporated. When teachers are allowed to take this opportunity away as punishment, it contributes to the difficulty of schools being able to offer at least 60 minutes of physical activity daily.

The policy that physical activity is offered on a rotating basis also is a barrier in that it prevents students from being able to have physical education every day. The requirements for instruction time and pressure to make annual yearly progress help the faculty to ensure students are achieving the academic requirements; but they also decrease the level of physical activity engagement due to classroom time constraints. These barriers are similar to those identified in other studies which indicate that academic achievement goals have forced school districts to reduce or eliminate physical education programs (Baskin, Zunker, Worley, Dial, & Kibrough, 2009; Cothran, Kulinna, & Garn, 2010; Evenson, Ballard, Lee, & Ammerman, 2009; Gaus & Simpson, 2009). When funding is tied to test performance, administration and teachers prefer to spend time providing instruction than engaging students in physical activity.

Another barrier that was identified is the lack of collaborative efforts in place to allow input from parents, students, or teachers regarding the amount of physical activity offered at school. Other studies show that effective policies regarding wellness, physical activity, and nutrition education goals can been developed ecologically with students, parents, school food service, and administrators involved in the development process (Story, Kaphingst, & French, 2006). These efforts would ensure input from all groups involved and provide a more representative plan for physical activity engagement. Therefore, it would be more efficient and effective for collaborative efforts among

administrators, teachers, students, and parents to be employed for decisions concerning the increase of physical activity within Upson County.

The respondents acknowledged that many of the barriers are difficult and too complicated to overcome. So they tend to accept the fact that students will not receive the recommended level of physical activity and continue with the curriculum as it is. However, 77% (*n*=48) of the respondents reported that they would be interested in incorporating physical activity into the classroom in an effort to overcome the barriers but do not have the necessary resources. The main necessary resources included additional staff, more time in the day, and lesson preparation. The results from previous studies yielded a need for the same resources including classroom management with large class sizes, limited school staff, scheduling pressures, and teacher participation (Baskin, Zunker, Worley, Dial, & Kibrough, 2009; Cothran, Kulinna, & Garn, 2010; Evenson, Ballard, Lee, & Ammerman, 2009). The barriers that were identified are policy related and therefore are difficult to overcome unless policy is changed at the local and state levels.

Research Question 3

What is the most effective method to increase physical activity for the Thomaston-Upson school system? Survey results showed that 60% (*n*=48) of respondents provided additional physical activity through free play, guided activities, and classroom-based activities. The interview provided insight on the best way to increase physical activity as identified by the interviewees. The responses focused on incorporating physical activity into the classroom. They reported that inclusion of physical activity into the classroom outside of physical activity is the best and most effective method to do so. While they were

willing to engage in this type of implementation, they were concerned about any interference with academics. They also were concerned about their lack of knowledge regarding these types of classroom-based programs. Feasibility of incorporating classroom-based physical activity would only be possible if they are able to address these issues in addition to those barriers mentioned under Research Question 2. Programs that have been implemented in schools required specific features in order to be successful. These features relate to those issues mentioned by the respondents including identification of staff and resources required for implementation, involvement of stakeholders including teachers, students, parent, and other school personnel, and training for implementation and evaluation (Franks et al., 2007). Incorporating these features would ensure proper planning and implementation of classroom-based physical activity that all involved are comfortable with for a successful outcome.

Conclusion

In conclusion, the purpose of this study was to utilize the Stage Theory of Organizational Change to determine the need to implement school policy changes in an effort to increase school physical activity levels for children in grade pre-kindergarten through five**.** The first level of the theory, awareness was utilized to first ensure that the school district was aware of the amount of physical activity their students are engaged in as well as the barriers and facilitators which affect this issue. The study achieved this purpose by determining that the recommended level of 60 minutes of physical activity is not provided daily during school hours. This finding is consistent and supports studies by Department of Health and Human Services (2010), and Story, Kaphingst, and French

(2006) that children are not achieving maximum levels of physical activity during the school day.

In addition, the barriers and facilitators to increasing physical activity for elementary school children were consistent with those listed in previous studies by Gaus and Simpson (2009), Kahan (2008), and Kaur, Hyder, and Poston (2003) which focus on reduced or eliminated physical activity time due to mandates to dedicate instruction time to achieving academic progress on a yearly basis. School policies continue to change in order to ensure children are gaining the main concepts to perform well on proficiency exams, which also dictate the amount of funding received by school districts. As more time for instruction is needed, additional components necessary for academic achievement such as music, art, and physical activity are decreased and eventually eliminated if necessary.

The adoption phase of the Theory of Organizational Change was applied to determine the best method for increasing physical activity engagement among the students. Despite the findings related to awareness, the study also revealed that school personnel are willing to work to increase physical activity engagement among their students by incorporating physical activity into the classroom curriculum. They realize that it is necessary to engage not only school administration, but also the children and parents in order to make this attempt successful. The best method for this incorporation of increased physical activity as identified in the study is to enhance the current curriculum with segments of physical activity that correlate to the lessons currently being taught. These findings support those of Beighle et al., (2009), Avery and Brandt (2010), and Orlowski, and Hart (2010). Teachers realize that it would be more helpful to increase

physical activity this way as it will increase the attention span of children and keep them energized and engaged in class which also helps facilitate the entire learning process.

Implications

The results of this study lead to implications for public health policies, programs, and the allocation of resources. The results revealed that the main reason for not achieving at least 60 minutes of physical activity daily relates to policies. The state of Georgia requires a minimum of ninety hours of physical education and health per school year in grades kindergarten through five (National Association for Sport and Physical Education, 2010). However, there also are policies that students must stay on task academically for a certain amount of time during the school day leading to decreased physical activity time as it is rotated with art, music, and computer. Additionally, school systems may choose to use any type of curriculum to achieve the physical education requirements. While public health recommendations state that children should achieve at least 60 minutes of physical activity daily, there are no official public health policies in place within the school systems which ensure children actually achieve this amount of physical activity on a daily basis.

Many public health programs that are currently in place address the amount of physical activity that children achieve in general. However, public health programs such as Go for Health, Verb™, and Take 10! have been used to help schools provide increased physical activity in the classroom more effectively. The results from this study revealed that the majority of those who participated in the survey and interviews were unfamiliar with these programs despite some of the respondents reporting that these types of

programs have been addressed at teacher conferences. The need for more dedication to educating school personnel about these types of programs is evident based on this study.

Even if teachers are aware of classroom-based programs and know how to implement them, they need the resources to do so. The programs mentioned previously such as Go for Health, Verb™, and Take 10! are already equipped with lesson plans and consultants to provide training to help implement these programs into the schools. Instead of decreasing time allocated for academics, they are designed to maintain instruction time while simultaneously increasing physical activity time. These features of the programs allow schools to still meet Georgia Performance Standards. The physical activity is implemented as a component of the coursework that is already taught. Upson County is a small, rural county where the government and school board are run by people from the community. The locally run offices make it easier to get policies developed and passed more so than in more urban areas where policies have to go through several channels and sometimes the decisions are made by those who have no direct connection to the people who will be impacted by the policies. Once the decision is made to make policy changes that are compatible with Georgia Performance Standards, the resources require funding and a desire for implementation is necessary.

Participation in the study, as mentioned in the results section, was rather low. None of the principals and, physical education teachers participated in the survey or interviews. Their lack of participation implies that they are not interested in addressing this issue or it is not of importance to them. It also implies that they would not be willing to implement an intervention to increase physical activity within the school system. However, the principals

had to give permission for the study to be conducted with their staff. The researcher was informed by one teacher that the three physical education teachers did not participate due their busy schedules as they have to rotate among schools. The Board of Education and Superintendent were represented in both phases of the study. Of course, participation by all is crucial in making the decision to change the school policy to incorporate curriculum to increase physical activity within the school system and to apply for funding. Despite their lack of participation in the study, the researcher has been assured by the Board of Education that the principals and physical education staff are willing and eager to address the issue of decreased physical activity within their school system and will be involved in any and all decisions regarding policy changes and funding applications.

Recommendations

Despite increasing obesity and type II diabetes rates among children, physical activity requirements continue to decrease and become eventually extinct within the school system. As of 2006, only 3.8% of public and private elementary schools required daily physical education for all students (Department of Health and Human Services, 2010). The decrease in physical activity during school hours and increasing obesity trends require efforts by the schools to address these issues. The results and implications of this study reveal the need for recommendations associated with additional research and methods for increasing physical activity within the school system through school policy change.

This study focused on using Stage Theory of Organizational Change to determine awareness of school personnel and school board members regarding the amount of physical activity engagement among students on a daily basis. Further studies should be

conducted to determine student and parent awareness of the amount of physical activity engaged in daily while in school. Additionally, the amount of physical activity that children engage in once they return home should be assessed to determine if the amount of school physical activity and after-school physical activity are actually sufficient to provide a total of 60 minutes of physical activity on a daily basis. It also is important to assess the students and parents regarding barriers and facilitators associated with achieving the recommended amount of physical activity both at school and at home.

Additionally, implementation of an evidence-based program, such as Go for Health, Verb™ or Take 10!, into the schools is recommended. The barriers listed by respondents indicated the main inhibitor to increasing physical activity in schools is the amount of time they have to actually do so. These programs are equipped with lesson plans that, not only help teachers easily incorporate them into the current curriculum, but also make it very easy to achieve additional time for physical activity.

The recommendations were made with the understanding that the school system currently may not be in the position to make a policy change of this nature. Therefore, the schools could start with a small change which is consistent with the current resources that are available. For instance, respondents mentioned that they are not discouraged from making students stay inside from recess or physical education as punishment for bad behavior. The school system could implement a policy that prevents teachers from using recess and physical education as discipline. A policy of this nature would ensure the students are receiving physical activity during the times it is offered until further policy changes are made to increase opportunities for them to be physically active.

Strengths and Limitations

The strengths of this study related to the type of study conducted and the participants of the study. The study utilized a sequential explanatory mixed methods design consisting of qualitative and quantitative data collection and analysis rather than only using a qualitative or quantitative design alone. A mixed method study allowed the researcher to provide a comprehensive picture of the research problem and to increase the strength of the study (Creswell, & Plano Clark, 2007). The survey was used to answer the research questions from a quantitative view, revealing specific information about the number of hours/days student engage in physical activity and broad information regarding the policies and requirements related to physical activity. However, the interviews provided more insight and an in-depth explanation for the data provided in the survey.

Additionally, this type of study was a strength because the qualitative phase was also used to identify information not found during the quantitative phase and produced reasons for some of the information found in the quantitative phase. Not only did the study identify whether or not the students achieve the recommended levels of physical activity and the barriers and facilitators to doing so, it also provided insight into the reasons and provided specific barriers and facilitators not gleaned from the survey. Presenting the results in a mixed method allows for the relationship between the quantitative and qualitative data to be clearly shown. Additionally, the inclusion of all staff and administration in the sample adds to the strength of the study. The results revealed the need for input from all stakeholders involved in the process. This study surveyed all administrative and staff stakeholders in the process to ensure representation from each grade and administration level.

There were some limitations to this study. The first limitation to this study was the use of an online survey to assess the population. Response rates for online surveys are typically lower than those for in-person or mailed surveys because some people are less likely than others to complete an online survey (Creswell & Plano Clark, 2007). The tendency of some individuals to respond to the invitation to participate in the online survey, while others ignored it, led to systematic bias. Emails were sent as reminders to complete the survey during the period it was open; however, individual post cards sent to the schools could have possibly increased the response rate. Despite the offer of a financial incentive, less than 25% of the population responded, resulting in a small response rate. This low response rate means that the 77% non-respondent rate could very well negate the results of this study. Therefore, the results were not generalizable to the more urban school systems; however, the results may be generalizable to other small rural school systems.

The second limitation for this study was the potential for response bias, as personnel provided a personal perspective of physical activity engagement. The personnel may have been more likely to over report the actual amount of physical activity engaged in by the students enrolled in their school system. It also is likely that the barriers to providing recommended amounts of physical activity were underreported. In addition, because personnel were being asked to provide personal mailing information to receive the incentive, they may have felt that their responses were not completely confidential. This may have contributed to the decreased number of responses to the survey.

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APPENDIX A

Definition of Key Terms

Definitions for key terms as they relate to this proposal are as follows:

Moderately intense physical activity is defined as working hard enough to raise your heart rate and break a sweat, yet still be able to carry on a conversation (ACSM, 2009).

Vigorously intense physical activity is defined as working hard enough to raise your heart rate significantly and breaking a sweat yet unable able to carry on a conversation (ACSM, 2009).

Elementary school is defined as an institution where children receive the first stage of compulsory education known as primary or elementary education (New World Encyclopedia, 2010). The elementary schools in Houston County include grades pre-kindergarten through fifth grade.

The *physical activity curriculum* is defined as a set of courses constituting an area of specialization (physical activity). (Merriam-Webster Dictionary, 2011).

Paraprofessional is defined as a person trained to assist a doctor, lawyer, teacher or other professional, but not licensed to practice in the profession (Dictionary.com, 2010).

APPENDIX B

Survey Questions

ARE THE OPPORTUNITIES PROVIDED DURING THE SCHOOL DAY SUFFICIENT TO MEET THE RECOMMENDED PHYSICAL ACTIVITY LEVELS FOR CHILDREN? : AN ASSESSMENT OF THE PHYSICAL ACTIVITY OCCURRENCES WITHIN THE THOMASTON-UPSON SCHOOL SYSTEM PRE-KINDERGARTEN CENTER AND ELEMENTARY SCHOOLS

The purpose of this survey is to assess the current physical education requirements and engagement levels among pre-kindergarten through fifth grade and to identify facilitator/barriers to including additional physical activity beyond that currently required. This questionnaire is being administered using an online survey tool. Please answer the questions to the best of your ability, indicating "not applicable" or "I don't know" where appropriate. The questionnaire is anonymous and names will not be associated with the results. Once you complete the survey, please select the submit button to release your responses to the surveyor.

1. What is your role in the school district? (Please answer according to the position in which you spend the most time.)
    a. School Board
    b. Principal
    c. Assistant Principal
    d. Director
    e. Assistant Director
    f. Pre-K Teacher
    g. 1st Grade Teacher
    h. 2nd Grade Teacher
    i. 3rd Grade Teacher
    j. 4th Grade Teacher
    k. 5th Grade Teacher
    l. Pre-K Paraprofessional
    m. 1st Grade Paraprofessional
    n. 2nd Grade Paraprofessional
    o. 3rd Grade Paraprofessional
    p. 4th Grade Paraprofessional
    q. 5th Grade Paraprofessional
    r. School Nurse
    s. Physical Education Teacher
    t. Art Teacher
    u. Music Teacher
    v. Elementary Curriculum Coordinator

2. Which school do you currently work for?
    a. Board of Education
    b. Upson-Lee Prekindergarten
    c. Upson-Lee North Elementary
    d. Upson –Lee South Elementary
    e. I rotate among two or more of the schools listed above. Please specify which schools. _____

The following questions focus on the amount of time in which students are <u>required</u> to engage in physical activity while in school. Please do not include instruction on physical activity topics that are part of health education or any other subject. Also do not consider regularly scheduled recess unless it is mandated by the physical education requirements.

3. Must students attending your school take any physical education as a requirement for graduation or promotion to the next grade level or school level?
    a. Yes
    b. No

4. How would you describe the physical education requirements for your school?
    a. Physical education is required in all grades.
    b. Physical education is required only in specific grades.
    c. Physical education is not required.

5. At this school, in which grade do students receive required instruction in physical education? Please mark all that apply.
    a. Pre-k
    b. 1st
    c. 2nd
    d. 3rd
    e. 4th
    f. 5th

6. How many weeks during the school year are students in your grade level scheduled to take physical education? Enter a number below.
    _____ weeks

7. On average, how many days per week are the students at your school scheduled to take physical education?
    a. 0 Days
    b. 1 Day
    c. 2 Days
    d. 3 Days
    e. 4 Days
    f. 5 Days
    g. Alternating weeks (please explain how often) _____

8. On average, how many minutes is each session of physical education scheduled to last?
    a. At least 60 minutes
    b. At least 30 minutes
    c. At least 20 minutes

9. How many days during the school week does your school require daily physical education activity for all students?
    a. 0 Days
    b. 1 Day
    c. 2 Days

d. 3 Days
e. 4 Days
f. 5 Days

10. How many days during the school week does your school require students who attend physical education class to exercise or play sports for at least 50% of the class time?
    a. 0 Days
    b. 1 Days
    c. 2 Days
    d. 3 Days
    e. 4 Days
    f. 5 Day

The next questions focus on the amount of physical activity engagement students actually participate in regardless of the requirements. Please do not include instruction on physical activity topics that are part of health education or any other subject. Also do not consider regularly scheduled recess unless it is mandated by the physical education requirements.

11. How many days during the school week do your students engage in some level of physical activity outside of physical education class (recess, lunch, class time, etc.)?
    a. 0 Days
    b. 1 Days
    c. 2 Days
    d. 3 Days
    e. 4 Days
    f. 5 Days

12. How many days during the school week does your school ***require*** students to engage in some level of physical activity outside of physical education class (recess, lunch, class time, etc.)?
    a. 0 Days
    b. 1 Days
    c. 2 Days
    d. 3 Days
    e. 4 Days
    f. 5 Days

13. In what context do students engage in physical activity outside of physical education class (i.e., recess, lunch, class time, etc.)? Please list them below.

_____

_____

_____

_____
_____
_____
_____

Now you will be asked questions about physical activity engagement at your school within the classroom, but beyond physical education class. This refers to time children spend engaging in physical activity while in your class. Please do not consider regularly scheduled recess when answering this section. However you may include additional recess time given to children or any type of physical activity students in while in your class (i.e. any type of movement around the classroom).

14. Do you encourage physical activity in your classroom throughout the day beyond that required during physical activity?
    a. Yes
    b. No

15. What types of physical activity do students engage in while in the classroom in classes other than physical education?
    a. Free play
    b. Guided activities (stretching, 5 minute energizers, etc.)
    c. Classroom based physical activity programs (Take 10!, CATCH, etc.)
    d. Other _____

16. Are there specific courses/subjects in which you incorporate physical activity in your classroom?
    a. Yes (If yes, list the courses.)
    b. No

17. Do you use classroom-based physical activity programs (Take 10!, CATCH, etc.) within your core curriculum?
    a. Yes (If yes, please list the program.)
    b. No

The next questions are about the use of physical activity and/or excluding students from physical activity as punishment for bad behavior.

18. Are staff at the school allowed to use physical activity, such as running laps or doing push-ups, to punish students for bad behavior?
    a. Yes
    b. No

19. Are staff at the school discouraged from using physical activity to punish students for bad behavior?
    a. Yes
    b. No

20. Are staff at the school allowed to exclude students from all or part of physical education as punishment for bad behavior in another class?
    a. Yes
    b. No

21. Are staff at the school discouraged from excluding students from all or part of physical education to punish students from bad behavior in another class?
    a. Yes
    b. No

22. Are staff at the school allowed to exclude students from other opportunities for physical activity (i.e. recess, free play time, etc.) as punishment for bad behavior?
    a. Yes
    b. No

Now you will be asked about collaboration among physical education staff and other school and local agency staff.

23. During the past 12 months, has the physical education staff worked on physical education activities with other teaching staff from this school?
    a. Yes
    b. No

24. Within the past 12 months, has the school…

	Yes	No
a. Met with parents' organizations, such as the PTA, to discuss school physical education?		
b. Discussed student participation in physical activity as part of parent-teacher conferences?		
c. Collected suggestions from family members about school physical education?		
d. Collected suggestions from students about school physical education?		
e. Collected suggestions from teachers about school physical education?		
f. Discussed incorporating additional physical activity into the school day outside of physical education?		

25. During the past two years, did you receive any staff development on…

	Yes	No
a. Methods to increase the amount of class time students are physically active?		
b. Using physical activity monitoring devices, such as pedometers?		

26. Would you be interested in incorporating physical activity into your classroom curriculum outside of physical education?
    a. Yes
    b. No

27. Do you have the resources you need to incorporate physical activity into your classroom curriculum outside of physical education?
    a. Yes
    b. No

28. What resources do you need in order to incorporate physical activity into your classroom curriculum outside of physical education?
    a. Additional classroom assistance
    b. More time in the day
    c. Help in preparing lesson plans to include physical activity
    d. Support from school administration
    e. Other _____

Thank you for completing this survey. If you would like more information about this study or would like clarification of any questions in this survey, please call Cheryl Gaddis at 478-396-2576.[1]

[1] This survey was developed based on questions from the Physical Education School Questionnaire and the Physical Education Classroom Questionnaire from the School Health Policies and Practices Study (SHPPS). The survey is distributed every six years by the National Center for Chronic Disease Prevention and Health Promotion to comprehensively assess school health policies and practices in the United States at the state, district, school, and classroom levels across the nation. The surveys were not used in their entirety. Only questions that were found to be pertinent to this study were adapted for this survey.

APPENDIX C

Interview Protocol

ARE THE OPPORTUNITIES PROVIDED DURING THE SCHOOL DAY SUFFICIENT TO MEET THE RECOMMENDED PHYSICAL ACTIVITY LEVELS FOR CHILDREN? : AN ASSESSMENT OF THE PHYSICAL ACTIVITY OCCURRENCES WITHIN THE THOMASTON-UPSON SCHOOL SYSTEM PRE-KINDERGARTEN CENTER AND ELEMENTARY SCHOOLS

Research Question: **Are the current physical activity opportunities within the Thomaston-Upson School System sufficient to provide the recommended amount of physical activity for elementary school age children?**

1. What is the school's current format for providing physical education?
2. What are the overall goals or focus of the physical education curriculum?
3. How does your school district's physical activity requirements compare to other school districts in the state?

Research Question: **What are the barriers and facilitators associated with increasing physical activity for students?**

4. What makes it easy to provide the recommended amount (60miniutes or more daily, US Department of Health and Human Services, 2008) of physical activity for your students?
5. What makes it difficult to provide the recommended amount (60miniutes or more daily, US Department of Health and Human Services, 2008) of physical activity for your students?
6. How does your physical education overcome these difficulties?

Research Question: **What is the most effective evidence-based method to increase physical activity for the Thomaston-Upson School System*?***

7. What do you think is the best way to provide opportunities for increased levels of physical activity for students?
8. How open would you be to incorporating an intervention to provide increased physical activity for students during the school day?
9. What have you heard about programs such as Take 10! © and Go for Health?
10. What is the feasibility of incorporating a classroom-based physical activity program in the Upson County elementary schools?

Reference:

Centers for Disease Control and Prevention. (2008). Physical activity guidelines for Americans. Washington, DC: US Department of Health and Human Services.

APPENDIX D

Informed Consent

Jiann-Ping Hsu College of Public Health

You are being asked to participate in a project conducted by a doctoral student through the Georgia Southern University Jiann-Ping Hsu College of Public Health. This project is being conducted in fulfillment of research requirements to achieve the doctorate of public health degree as outlined by the Jiann-Ping Hsu College of Public Health. Southern University's IRB requires investigators to provide informed consent to participate in this project. The purpose of the study is to assess the opportunities currently offered for physical activity to determine if they sufficiently provide the recommended levels of physical activity and to identify the barriers and facilitators to increasing physical activity for elementary school aged children in Thomaston-Upson School System**.**

Participation in this research will include completion of a survey and/or interview. There are no expected risks from participating in this study. You understand that it is not possible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

The benefit to participants and society is an increased awareness of the amount of physical activity your students are engaged in on a daily basis in addition to methods which can be used to increase physical activity during the school day. The survey should take approximately 25-30 minutes to complete online. Participants who submit a completed survey and return confirmation of completion to the researcher will receive an incentive of $10 cash. The interview should take approximately 45 minutes - 1 hour to complete. Not everyone will be asked to complete an interview. Those who are asked and agree to participate in an interview will receive an additional incentive of $25 cash.

The interview conversation will be recorded and transcribed so that the researchers may identify specific themes discussed. The information from the surveys will be compiled and analyzed and no attempt will be made to connect your name with your comments or responses. Data must be maintained in a secure location for a minimum of 3 years following completion of the study. Only the researcher will have access to the information.

Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty or retribution by not completing the survey, or informing the researcher that you no longer wish to participate in an interview. Withdrawing from the study does preclude the right to receive an incentive. Refusal to participate in this study will have no effect on any future services you may be entitled to from the University.

Participants have the right to ask questions and have those questions answered. If you have questions about this study, please contact the researcher named below or the researcher's faculty advisor, whose contact information is located at the end of the informed consent. For questions

concerning your rights as a research participant, contact Georgia Southern University Office of Research Services and Sponsored Programs at 912-478-0843.

You must be 18 years of age or older to consent to participate in this research study. If you consent to participate in this research study and to the terms above, please sign your name and indicate the date below.

You will be given a copy of this consent form to keep for your records. This project has been reviewed and approved by the GSU Institutional Review Board under tracking number H12021.

Title of Project: **ARE THE OPPORTUNITIES PROVIDED DURING THE SCHOOL DAY SUFFICIENT TO MEET THE RECOMMENDED PHYSICAL ACTIVITY LEVELS FOR CHILDREN? : AN ASSESSMENT OF THE PHYSICAL ACTIVITY OCCURRENCES WITHIN THE THOMASTON-UPSON SCHOOL SYSTEM PRE-KINDERGARTEN CENTER AND ELEMENTARY SCHOOLS**

Principal Investigator: Cheryl Gaddis, MPH, CHES, 478-396-2576, cg00820@georgiasouthern.edu)
Faculty Advisor: Dr. Moya Alfonso, 912-478-2674, malfonso@georgiasouthern.edu

_____ _____

Participant Signature Date

I, the undersigned, verify that the above informed consent procedure has been followed.

_____ _____

Investigator Signature Date

APPENDIX E

Qualitative Data Collection Matrix

ARE THE OPPORTUNITIES PROVIDED DURING THE SCHOOL DAY SUFFICIENT TO MEET THE RECOMMENDED PHYSICAL ACTIVITY LEVELS FOR CHILDREN? : AN ASSESSMENT OF THE PHYSICAL ACTIVITY OCCURRENCES WITHIN THE THOMASTON-UPSON SCHOOL SYSTEM PRE-KINDERGARTEN CENTER AND ELEMENTARY SCHOOLS

Outcome	Theory of Organizational Change Stage	Research Question	Themes	Participant Responses
Determination of physical activity engagement	Awareness	What is the school's current format for providing physical education?	Schedule for PE	*~We rotate CAMP activities (computer, art, PE , and music) daily. We have PE two days a week for 45 minutes each day.* *~The schedule rotates different days between computer, art, music and physical education for 45 minutes each.*
			Content of curriculum	*~We follow the state curriculum. They do team sports and stretches, nature walks, jogging and running. Various sports of different kinds.* *~For one term the students are taught health in the classroom by our coaches.*
			Time allotted for class	*~Students at every grade level (K-3) attend two 45 minute classes each week.* *~Students attend a physical education class twice a week for forty five minutes per each class*

Outcome	Theory of Organizational Change Stage	Research Question	Themes	Participant Responses
Determination of physical activity engagement	Awareness	What is the school's current format for providing physical education?	Teaching Staff	*~It is taught through certified physical education teachers with paraprofessionals on a regular basis depending on other extracurricular activities.* *~We have three certified PE teachers at south.*
		What are the overall goals or focus of the physical education curriculum?	Health Promotion	*~The physical education curriculum focus is promoting good health habits, daily exercise, outside recreation, and more physical activity to increase stamina.* *~To enhance the overall health and knowledge of health for all students*
			Physical Development	*~They do an assessment every year and the state has an assessment that is completed every year with the older children to determine the amount of sit-ups and other exercises they can do.* *~Teachers have planned activities to promote children's physical activity levels at school and at home through a variety of means- games, Wii games, traditional exercises, etc.*
			Obesity Prevention	*~The overall goal or focus of the physical education curriculum is to address childhood obesity* *~We are trying to combat obesity. The first lady asked us to help fight obesity, so we got on board. It's not a vigorous curriculum due to age.*

Outcome	Theory of Organizational Change Stage	Research Question	Themes	Participant Responses
Determination of physical activity engagement	Awareness	How does your school district's physical activity requirements compare to other school districts in the state?	Georgia Performance Standards	*~Our school's physical education department must follow the GPS just like other school districts in the state.* *~I know we are in guidelines with the state. Our superintendent is strict with sticking with state guidelines so that's what she requires of the teachers*
Facilitators to providing recommended levels of physical activity		What makes it easy to provide the recommended amount (60 minutes or more daily, US Department of Health and Human Services, 2008) of physical activity for your students?	Schedule Staff	*~It is easier on the days that P.E. is available. That definitely helps. School gives at least 20 minutes of recess time for all grades. That makes it easier on the day when they also have P.E.* *~A schedule set at the beginning of the year that is followed throughout the year.* *~The certification of our physical education teachers makes it easy to provide the recommended physical activity for our students.* *~The certified teachers get together and group the students according to their grade level, gender, etc. It's an easy transition.*
Barriers to providing recommende d levels of physical activity		What makes it difficult to provide the recommended amount (60miniutes or more daily, US Department of Health and Human Services, 2008) of physical activity for your students?	Scheduling	*~Scheduling is the big thing. Fitting in all the academics where they need to be. Of course they could eliminate computer art and music but I think those are important also.* *~Scheduling of rotations like art and music and hopefully library time. Scheduling can be an issue.*

Outcome	Theory of Organizational Change Stage	Research Question	Themes	Participant Responses
Barriers to providing recommended levels of physical activity	Awareness	What makes it difficult to provide the recommended amount (60miniutes or more daily, US Department of Health and Human Services, 2008) of physical activity for your students?	AYP Requirements	*~No Child left behind and in the past AYP. The focus has been on academic reading and math scores. There were many years we were not allowed to have recess and I teach 5th grade.* *~ The fact that state standards are pushing lots of academics on our kids makes it hard because the administration gets its cue from the state regarding time for academics.*
			Funding	*~The funding structure for our schools is based upon the instructional minutes provided to each student. Therefore, the unstructured physical activity needed by this age student is not funded.* *~Our system can't afford the staff.*
		How does your physical education overcome these difficulties?	Good Use of Time	*~They use teachers' aides and have more classes in the gym at a time.* *~They make sure that they make the best use of their time...encouraging teachers to bring students on time so they get started promptly.*
			No Solutions	*~I don't think they do overcome. I don't see a lot of creativity to incorporate physical activity. I think it would be great if P.E. coaches could incorporate physical activity into the classroom.* *~During the school day I do not think there is any way. It's really impossible.*

Outcome	Theory of Organizational Change Stage	Research Question	Themes	Participant Responses
Suggestions for programs or policies that can be implemented in the Upson County School System	Adoption	What do you think is the best way to provide opportunities for increased levels of physical activity for students?	Integrate Movement into the Classroom	*~Small segments of time given in the morning and the afternoon for physical activity in the classroom.* *~I feel like integrating physical education along with academics is a good way. It's a good way to incorporate movement.*
			Additional School Time	*~Maybe increase the time in afterschool to allow for physical activity.* *~Lengthen school day.*
			Additional Resources	*~Funding the full school day with the additional time provided by state.* *~Provide another gym and more teachers.*
		How open would you be to incorporating an intervention to provide increased physical activity for students during the school day?	Concerns about Overloading Teachers	*~Willing, but unsure how I would fit it into our already over packed instructional day.* *~I would be very open to a small segment of time for this intervention. Classroom teachers are already overloaded with requirements of teaching though.*
			Enthusiasm	*~Very open. I would welcome that. I think we don't get enough. If the state says we go to 70 minutes I'm all for it if we can stay with our academics.* *~I think that would be absolutely wonderful. As you know, elementary kids have tons of energy and are*

				required to sit there. I think exercise stimulates the mind and leads to creativity.
		What have you heard about programs such as Take 10! © and Go for Health?	Limited Knowledge	*~I have read a little bit about those programs. I do not know as much as I should know. Some of my friends have been involved in trying to implement programs like that.* *~ Just what I've heard through the media and some of the other districts. When we go to our state school board conferences we hear how other school systems are using those programs.*
		What is the feasibility of incorporating a classroom-based physical activity program in the Upson County elementary schools?	Uncertainty Agreement Need for Training	*~It is difficult enough to get all our academic requirements in and quite frankly, teachers would probably see it as just one more thing to do each day.* *~ Small segments of times might be feasible.* *~ Yes there is opportunity to incorporate this type of activity into the classroom.* *~ I personally think that people would be receptive to do it and it sounds like something that could be reasonably accomplished.* *~ I think that is very doable or workable if teachers understand what the program is and how they can use it.* *~ Someone would have to educate the many administrators on the importance of physical activity and the correlation with improved attention span.*

APPENDIX F

Theoretical Saturation Table for Qualitative Data Collection

ARE THE OPPORTUNITIES PROVIDED DURING THE SCHOOL DAY SUFFICIENT TO MEET THE RECOMMENDED PHYSICAL ACTIVITY LEVELS FOR CHILDREN? : AN ASSESSMENT OF THE PHYSICAL ACTIVITY OCCURRENCES WITHIN THE THOMASTON-UPSON SCHOOL SYSTEM PRE-KINDERGARTEN CENTER AND ELEMENTARY SCHOOLS

Source of Interviews	Approximate Number of Interviews to be Conducted		Total Number of Interviews
	Minimum	Maximum	
Board of Education	5	7	10-14
School System Personnel	5	7	

APPENDIX G

IRB Approval Form

Georgia Southern University
Office of Research Services & Sponsored Programs

Institutional Review Board (IRB)

Phone: 912-478-0843
Fax: 912-478-0719
IRB@GeorgiaSouthern.edu
Veazey Hall 2021
P.O. Box 8005
Statesboro, GA 30460

To: Cheryl Gaddis
Dr. Moya Alfonso
Dr. Robert Vogel

CC: Charles E. Patterson
Vice President for Research and Dean of the Graduate College

From: Office of Research Services and Sponsored Programs
Administrative Support Office for Research Oversight Committees (IACUC/IBC/IRB)

Initial Approval Date: 9/26/11

Expiration Date: 6/25/12

Subject: Status of Application for Approval to Utilize Human Subjects in Research

After a review of your proposed research project numbered **H12021** and titled **"Are the Opportunities Provided During the School Day Sufficient to Meet the Recommended Physical Activity Levels for Children?: An Assessment of the Physical Activity Occurrences Within the Thomaston-Upson School System Pre-Kindergarten Center and Elementary Schools,"** it appears that (1) the research subjects are at minimal risk, (2) appropriate safeguards are planned, and (3) the research activities involve only procedures which are allowable. You are authorized to enroll up to a maximum of **250** subjects.

Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that the Institutional Review Board has approved your proposed research.

If at the end of this approval period there have been no changes to the research protocol; you may request an extension of the approval period. Total project approval on this application may not exceed 36 months. If additional time is required, a new application may be submitted for continuing work. In the interim, please provide the IRB with any information concerning any significant adverse event, **whether or not it is believed to be related to the study**, within five working days of the event. In addition, if a change or modification of the approved methodology becomes necessary, you must notify the IRB Coordinator **prior** to initiating any such changes or modifications. At that time, an amended application for IRB approval may be submitted. Upon completion of your data collection, you are required to complete a *Research Study Termination* form to notify the IRB Coordinator, so your file may be closed.

Sincerely,

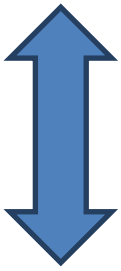
Eleanor Haynes

Eleanor Haynes
Compliance Officer

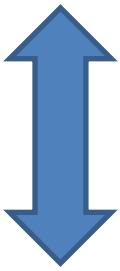
APPENDIX H

Stage Theory of Organizational Change Diagram

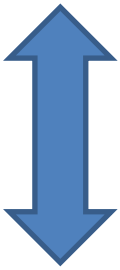
Stage 1: Awareness (Problems are recognized and analyzed, and solutions are suggested and evaluated)



Stage 2: Adoption (Policies are formulated and resources for beginning changes are allocated)



Stage 3: Implementation (The innovation is implemented, reactions take place, and changes in roles occur)



Stage 4: Institutionalization (The policy or program becomes an integral part of the organization, and new goals and values are a part of its structure)